SDMS US EPA REGION V -1

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160226

SWMU #1

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

Facility: Monsanto-Krummrich **Date:** 9/16/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Phenol Tank, Item #405

LDF Unit: Y or N **Type of Unit:** Wastewater Storage Tank

Location (identify deparmtent and orientation of unit): The tank sits 20 feet southwest of Building BR.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): Tank #405 was a 20,000 gallon steel tank (above ground). Wastewater contaminated with phenol and other phenolic compounds were directed into the tank, where is was stored until being pumped into the treatment tanks (209 and 400). This tank was taken out of phenol service in 1981 and is currently in Chlorobenzene service.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): Wastewater contaminated with phenol and other phenolic compounds.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

Tank 405 sat on a concrete pad with 6"-8" curb.

SWMU #2

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

Facility: Monsanto-Krummrich **Date:** 9/16/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Dept. 237 Tank, Item #400

LDF Unit: Y or N **Type of Unit:** Wastewater Treatment Tank (Acidifier)

Location (identify deparmtent and orientation of unit): This tank sat just west of Tank 210.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): Tank 400 was a 2,000 gallon glass lined steel tank with an agitator. Wastewater from Tank 405 and residue from Tank 210 was charged to Tank 400. The mixture was agitated and allowed to settle. After settling the water was decanted to the sewer, and residue to Tank 209 (see SWMU #3). Tank was in served from 1979 to 1981, and set idle until 1985 and was dismantled in 1985.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): Wastewater contaminated with phenol and other phenolics and Santophen residue.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

Tank 400 sat on a concrete pad behind a 3' concrete dike.

[437]

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

SWMU #3

Facility: Monsanto-Krummrich **Date:** 9/16/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Department 237 Tank Item #209

LDF Unit: Y or N **Type of Unit:** Wastewater Treatment Tank (neutralized)

Location (identify deparmtent and orientation of unit): This tank was located west of tank #210.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): Tank #209 was a 2,000 gallon glass lined steel tank. The precipitate from tank #400 was charged into tank 209 were it neutralized with lime. The material then was pumped back to tank #410 where it was stored until disposal. Tank was in service from 1979 to 1981. Tank sat idle until 1985 when it was dismantled.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): Precipitate from tank 400 (see SWMU #2).

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

Tank 209 sat on a concrete pad behind a 3' concrete dike.

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

SWMU #4

Facility: Monsanto - Krummrich **Date:** 9/11/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Mercury Recovery Process; Wastewater Pretreatment

LDF Unit: Y or N **Type of Unit:** Wastewater Treatment

Location (identify deparmtent and orientation of unit): This facility was located in the Chlor/Alkali Department in the southeastern section of the plant.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): This wastewater pretreatment unit was permitted by the IEPA under the CWA of 1977. Its permit number was 1984-EP-2981. This treatment unit reduced the mercury level by a 2 step process, involving a clarifier and reactor along with additional process of auxilliary equipment. Solids collected from this facility were handled as RCRA hazardous wastes. The Chlor/Alkali dept. was shutdown and dismantled in mid 1980's.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): Mercury contaminated water.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

SWMU #4

Facility: Monsanto - Krummrich **Date:** 9/11/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Mercury Recovery Process; Wastewater Pretreatment

LDF Unit: Y or N **Type of Unit:** Wastewater Treatment

Location (identify deparmtent and orientation of unit): This facility was located in the Chlor/Alkali Department in the southeastern section of the plant.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): This wastewater pretreatment unit was permitted by the IEPA under the CWA of 1977. Its permit number was 1984-EP-2981. This treatment unit reduced the mercury level by a 2 step process, involving a clarifier and reactor along with additional process of auxilliary equipment. Solids collected from this facility were handled as RCRA hazardous wastes. The Chlor/Alkali dept. was shutdown and dismantled in mid 1980's.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): Mercury contaminated water.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

SWMU #6

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

Facility: Monsanto-Krummrich **Date:** 9/10/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Steamer Overhead Tank - Item 407

LDF Unit: Y or N **Type of Unit:** Storage Tank

Location (identify deparmtent and orientation of unit): The steamer overhead tank was located in Department 238.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): The steamer overhead tank, Item 407, was a 15,000 gallon RFP (Fiberglass Reinforced Plastic) tank. The tank was entirely above ground and diked. The waste stored in the tank was an ignitable waste (D001) and was generated from the distillation of butyl benzyl phthalate. The composition of the waste was: Butanol, Benzyl Chloride, and Triethylamine. The tank was decommissioned and removed from service in 1982.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): The waste was an ignitable liquid (D001).

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography): The tank sat behind a concrete and rebar dike.

SWMU #7

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

Facility: Monsanto-Krummrich **Date:** 9/10/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Benzyl Chloride Residue Tank, Item 189

LDF Unit: Y or N **Type of Unit:** Storage Tank

Location (identify deparmtent and orientation of unit): Tank #189 was located in Department 229.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): Tank #189 was a 14,000 gallon FRP (Fiberglass Reinforced Plastic). This was was entirely above ground and diked. The tank was removed from service in 1982.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): The tank stored a waste that had hazardous constituents. The composition of this K015 liquid waste is as follows: 75% Benzal Chloride; 15% Benzyl Chloride; 10% Highboils.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

The tank was positioned behind a dike constructed of concrete and rebar.

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET SWMU #8

Facility: Monsanto-Krummrich **Date:** 9/3/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Department 224/233 Drum Accumulation Area

LDF Unit: Y or N **Type of Unit:** Drum Accmulation Area

Location (identify deparmtent and orientation of unit): The accumulation area for Dept. 224 is north side of 3rd street just west of Falling Springs Road. Dept. 233 has two areas, south side of 3rd Street at Falling Springs, and at 4th and D Streets northeast corner.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): Dept. 224's pad is concrete. Dept. 233's pads are constructed of asphalt. The pads are not burmed or diked. These areas are waste accumulation sites. Wastes that are generated, packaged, and labelled in the units are placed on pallets at these locations. The drums may be kept here for a maximum period of 3 days. Drums are transferred to BBU waste warehouse from these areas. No long term waste storage activity occurred at this location.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): Dept. 224 generates wastes associated with Nitrochlorobenzene, Dept. 233 generator wastes associated with Chlorobenzene. Waste includes oil and Therminol, contaminated debris, off-spec product. Waste Codes included D018, D021, D027, and D008.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

Department 224's pad is concrete. Both of Department 233 pads are construction of asphalt.

SWMU #9

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

Facility: Monsanto-Krummrich **Date:** 9/16/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Department 237 Storage Tank, Item 410

LDF Unit: Y or N **Type of Unit:** Storage Tank

Location (identify deparmtent and orientation of unit): Northeast side of Department 237.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): Tank held residue from the still pot of Department 237. Item #410 tank was 16,000 gallon steel tank and sat behind a concrete dike and a concrete pad. Tank was put into service in 1979 and shutdown in 1981. The tank was dismantled in 1982.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]):

Parachlorophenol residue.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

Tank sat on a concrete base behind a 4' concrete dike.

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET SWMU #10

Facility: Monsanto-Krummrich **Date:** 9/3/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Department 245 Drum Accumulation Area

LDF Unit: Y or N **Type of Unit:** Accumulation Site

Location (identify deparmtent and orientation of unit): Drum accumulation site is located on the southwest side of the department. (Photo was taken of tote bin lot, this is where product is stored before it is shipped.)

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): Pad is constructed of asphalt/concrete and is approximately six years old. Waste that is packaged and labelled in the department is brought to this site on pallets. The waste is transferred from this site to BBU ware warehouse. Maximum storage time at this pad is 3 days. There are other areas in the department where drums are stored. However, these drums contain either product to be shipped or off-spec product that is to be reworked. The material stored in this area is not considered waste.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): Wastes that are handled at this site include those that are associated with the manufacture of Phosphorus Pentasulfide (P_2S_5). Wastes include: waste P_2S_5 (D003, U189, D002), waste sulfur (D008), waste 0.1/Therminol (D018/D035 and D008/D018), and Phosphorus Sulfide (U189).

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

Pad is constructed of asphalt/concret.

SWMU #11

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

Facility: Monsanto-Krummrich **Date:** 9-14-92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Methyl Iso Butyl Ketone Residue Tanks #232, 268 and 271

LDF Unit: Y or N **Type of Unit:** Waste Storage Tanks

Location (identify deparmtent and orientation of unit): The Methyl Iso Butyl Ketone tanks were located in Department 247.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): MIBK residue tanks, Item #232, 268 and 271, were constructed of carbon steel and had capacities of 3,000, 2250 and 3,000 gallons respectively. The residue stored in these tanks was the result of the recovery of ketone reactants. Closure certification was mailed to the agency in February 1989. The tanks received closure in 1990.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): The residue was composed of either MIAK (Methyl Iso Amyl Keton) or MIBK (Methyl Iso Butyl residue). Both materials demonstrated the characteristics of ignitability (D001).

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

The tanks sat on a concrete base behind 6" curbs.

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

SWMU #12

Facility: Monsanto-Krummrich **Date:** 9/16/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Paint Shop Drum Accumulation Area

LDF Unit: Y or N **Type of Unit:** Drum Storage Area

Location (identify deparmtent and orientation of unit): The Paint Shop was located at 3rd and E Street (northeast corner).

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): The paint shop drum storage area was a small pad that held a maximum of 10 drums. The employees at this facility would empty waste solvents into drums located in this area. The solvent and paint waste was either incinerated or reclaimed. The paint shop was dismantled in the mid 1980's.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): Solvents associated with paint thinning and residual paint.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

Asphalt pad - no burm or secondary containment.

SWMU #13

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

Facility: Monsanto-Krummrich **Date:** 9/3/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Lab. Drum Accumulation Area

LDF Unit: Y or N **Type of Unit:** Satellite accumulation area for lab.

Location (identify deparmtent and orientation of unit): North of the manufacturing area at the rear of the lab.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): The accumulation area is a raised loading dock that constructed of concrete. It is an enclosed cage with a roof. The area serves as an accumulation area for waste that is transferred to BBU within 3 days and also as a satellite area where waste solvent is stored for a longer period of time.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): Waste stored here include contaminated solvents, glass, PDCB, ONCB, and 10 gallon lab packs.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

The area is an enclosed (cage) concrete loading dock with a roof. The dock is not burmed.

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

SWMU #14

Facility: Monsanto-Krummrich **Date:** 9/10/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Warehouse/Shipping Drum Storage Area

LDF Unit: Y or N **Type of Unit:** Warehouse

Location (identify deparmtent and orientation of unit): This area is located in the southwest corner of BBW warehouse.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): The area is an enclosed (caged) area measuring 20' X 20' in a warehouse that holds product for shipment. At certain times in the past, it was used to hold non-hazardous waste from Department 255 (4NDPA residue). The storage area is a totally enclosed warehouse with a concrete floor. This practice of storing a waste in a product warehouse has been halted, and has not occurred since the late 1980's (possibly in 1987). The material shown in the photograph is product ready for shipment.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): The waste stored was 4-NDPA residue, a viscous liquid that turns solid. The waste was stored in 20 gallon fiber drums. 4-NDPA is non-hazardous.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

The warehouse is totally enclosed. The area in the warehouse where the waste was stored is caged and has a concrete floor.

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET SWMU #15

Facility: Monsanto-Krummrich **Date:** 9/8/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: BBU Waste Warehouse

LDF Unit: Y or N **Type of Unit:** Waste Storage Warehouse (790 day)

Location (identify deparmtent and orientation of unit): The warehouse is located in the southwest corner of the plant.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): The BBU waste warehouse was opened in 1984. The warehouse is 50' x 100' and is a roofed building that has secondary containment. Secondary containment consists of a 1' concrete dike that surrounds the storage area. The floor of the warehouse is a 6" concrete slab floor. The warehouse is permitted to store 400,000 gallons of RCRA waste (see 1984 Part A). Waste is transported to BBU by plant personnel from the various operating departments waste accumulation areas.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): For list of waste stored at BBU see attached.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

The warehouse is an enclosed concrete pad measuring 50' x 100'. The pad has secondary containment.

SWMU #16

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

Facility: Monsanto - Krummrich **Date:** 8/5-6-92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Ketone Residue Tank

LDF Unit: Y or N **Type of Unit:** Tank 595 (13,000 gallon)

Location (identify deparmtent and orientation of unit): The tank is located in Department 277 and is located in the southeast corner of dike.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): The Ketone Residue Tank #595 is a 16 year old, 13,000 gallon carbon steel vessel. The roof of this vertical is a conical weak seam cover constructed of carbon steel. The existing shell thickness is reported to be 0.275 inches. The organic separator, vacuum cut line, steam out condensate tank, vacuum cut receiver, and the

CONTINUED ON PAGE 3

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): The Ketone Residue tank is located in Department 277. This department manufactures a a rubber chemical additive known as Santoflex. The composition of the Ketone residue is as follows: **CONTINUED ON PAGE 3**

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

Tank #595 sets behind a 3 1/2' concrete dike wall that has been reinforced with rebar. The floor of the dike is also made of rebar reinforced concrete. The dike wall and floor as well as the tank pad has been sealed.

CONTINUED FROM PAGE 1

Unit characteristics (Continued):

second cut receiver all feed the Ketone Residue tank through three pipelines.

Wastes managed (Continued):

Methyl Iso Butyl Ketone	34.33%
Methyl Iso Butyl Carbinol	27.88%
Methyl Iso Amyl Ketone	3.26%
Methyl Iso Amyl Carbinol	1.21%
Xylene	6.11%
Chlorotoluene	4.36%
Aniline	7.47%
Santoflex 13	.14%
Unknown	.44%

The ketone residue, which is a liquid, carries the following waste codes: D001, D035, and U159.

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

SWMU #11

Facility: Monsanto-Krummrich **Date:** 9-14-92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Methyl Iso Butyl Ketone Residue Tanks #232, 268 and 271

LDF Unit: Y or N **Type of Unit:** Waste Storage Tanks

Location (identify deparmtent and orientation of unit): The Methyl Iso Butyl Ketone tanks were located in Department 247.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): MIBK residue tanks, Item #232, 268 and 271, were constructed of carbon steel and had capacities of 3,000, 2250 and 3,000 gallons respectively. The residue stored in these tanks was the result of the recovery of ketone reactants. Closure certification was mailed to the agency in February 1989. The tanks received closure in 1990.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): The residue was composed of either MIAK (Methyl Iso Amyl Keton) or MIBK (Methyl Iso Butyl residue). Both materials demonstrated the characteristics of ignitability (D001).

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

The tanks sat on a concrete base behind 6" curbs.

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

SWMU #11

Facility: Monsanto-Krummrich **Date:** 9-14-92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Methyl Iso Butyl Ketone Residue Tanks #232, 268 and 271

LDF Unit: Y or N **Type of Unit:** Waste Storage Tanks

Location (identify deparmtent and orientation of unit): The Methyl Iso Butyl Ketone tanks were located in Department 247.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): MIBK residue tanks, Item #232, 268 and 271, were constructed of carbon steel and had capacities of 3,000, 2250 and 3,000 gallons respectively. The residue stored in these tanks was the result of the recovery of ketone reactants. Closure certification was mailed to the agency in February 1989. The tanks received closure in 1990.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): The residue was composed of either MIAK (Methyl Iso Amyl Keton) or MIBK (Methyl Iso Butyl residue). Both materials demonstrated the characteristics of ignitability (D001).

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

The tanks sat on a concrete base behind 6" curbs.

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

SWMU #19

Facility: Monsanto-Krummrich **Date:** 9/3/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Chloro/Alkali Waste Storage Pad

LDF Unit: Y or N **Type of Unit:** Waste Pile/Pad

Location (identify deparmtent and orientation of unit): The pad was located at the eastern edge of the plant.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): The Chlor/Alkali waste pad and loading ramp was dismantled in 1989-90. The pad and ramp was constructed of concrete and rebar construction. There was no secondary containment.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): The waste that was stored on the pad was associated with the production of chlorine. The waste was a mercury contaminated study.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

The pad and ramp was constructed of concrete and rebar. There was no secondary containment.

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET SWMU #10

Facility: Monsanto-Krummrich **Date:** 9/3/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Department 245 Drum Accumulation Area

LDF Unit: Y or N **Type of Unit:** Accumulation Site

Location (identify deparmtent and orientation of unit): Drum accumulation site is located on the southwest side of the department. (Photo was taken of tote bin lot, this is where product is stored before it is shipped.)

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): Pad is constructed of asphalt/concrete and is approximately six years old. Waste that is packaged and labelled in the department is brought to this site on pallets. The waste is transferred from this site to BBU ware warehouse. Maximum storage time at this pad is 3 days. There are other areas in the department where drums are stored. However, these drums contain either product to be shipped or off-spec product that is to be reworked. The material stored in this area is not considered waste.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): Wastes that are handled at this site include those that are associated with the manufacture of Phosphorus Pentasulfide (P_2S_5). Wastes include: waste P_2S_5 (D003, U189, D002), waste sulfur (D008), waste 0.1/Therminol (D018/D035 and D008/D018), and Phosphorus Sulfide (U189).

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

Pad is constructed of asphalt/concret.

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

SWMU #21

Facility: Monsanto-Krummrich **Date:** 9/10/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Facility Landfill Northwest Area

LDF Unit: Y or N **Type of Unit:** Suspected Landfill

Location (identify deparmtent and orientation of unit): This landfill has been reported to be in the northwest corner of the facility.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): In the initial filings for the Part A and Eckhardt study, WGK reported that there was a 705' x 300' foot landfill in the northwest corner of the facility. Apparently these findings were based on non-conclusive evidence. Attached is a letter found in our files that discounts the presence of this particular fill. Like the agency, we have many documents (Part A filings and the Eckhardt study) that suggest the presence of the fill. However, the groundwater and soil boring study shows no evidence of a fill.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): _____

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

Monsanto

21

FROM (NAME—LOCATION—PHONE) : W. L. Smull (2322)

DATE : April 1, 1986

cc: J. W. Molloy
G. L. Jones

SUBJECT : WGK-RCRA

REFERENCE :

TO : M. R. Foresman - B3NA
R. L. Biggerstaff - CS7J
P. J. Haechrel

When the WGK filings for the RCRA Part A and Eckhardt study were made the area in the west portion of the main plantsite occupied by the contractors parking lot was noted as an old landfill based on heresay evidence. This area was subsequently picked up and included on the Sauget sites study by IEPA.

The G and M literature search conducted as part of our groundwater study failed to uncover any evidence supporting the existence of this site and likewise our field studies which included corings.

As a result, G and M has prepared the attached letter which we propose to use for amending our RCRA-A and -B filings to delete this site. Your comments on the letter and the approach in general are requested.

Also attached is the groundwater and soils data for the area.

W. L. Smull

Warren L. Smull

/db

Attachment

WGK 1482947

1120

DRAFT

DRAFT

Project No.: N0308SG3 March 24, 1986

VIA FEDERAL EXPRESS

Mr. Warren Smull
Monsanto Industrial Chemical Company
W.G. Krummrich Plant
Monsanto Avenue
Sauget, Illinois 62201

Dear Mr. Smull:

We have completed our investigations in the contractor's parking lot at the W.G. Krummrich plant in Sauget, Illinois. This area was listed on the Krummrich plant's Eckhardt submission as a landfill used between 1950 and 1957.

Our thorough search through Monsanto's records produced no evidence that the area had ever been used as a landfill. The three borings that were made by Geraghty & Miller also support the fact that landfilling did not occur in the area. Although the geologic logs of the borings and subsequent chemical analyses of soils samples show some evidence of soils contamination, the material in the area appears to be natural. There is a layer of fill but this is a surface layer evidently laid down as part of the construction for the parking lot.

Analyses of ground-water samples collected from a shallow well downgradient of the area do not indicate a large upgradient source of contaminants and support the conclusion based on the logs and soil samples. Except for methylene chloride which was found at 9 and 38 ug/L on two occassions, the concentrations of all other organic compounds are less than 10 ug/L.

If you have any questions or if you need additional information please do not hesitate to contact us.

Very truly yours,

GERAGHTY & MILLER, INC.

Nicholas Valkenburg
Associate

NV:dv

Table 1 Summary of USEPA Priority Pollutant Volatile Organic Compounds in Ground Water and Soil, Monsanto Company, W.G. Krummrich Plant, Sauget, Illinois

Parameter	GM-4A[a] 11-83	GM-4A[a] 5-84	BG-14[b] 8.5-10 Feet 8-84
Acrolein	<1	<1	<1
Acrylonitrile	<1	<1	<1
Benzene	<1	<1	650
bis (Chloromethyl) ether	<1	<1	<1
Bromoform	<1	<1	<1
Carbon Tetrachloride	<1	<1	<1
Chlorobenzene	<1	<1	<1
Chlorodibromomethane	<1	<1	<1
Chloroethane	<1	<1	<1
2-Chloroethylvinyl ether	<1	<1	<1
Chloroform	<1	<1	<1
Dichlorobromomethane	<1	<1	<1
Dichlorofluoromethane	<1	<1	<1
1,1 - Dichloroethane	<1	<1	<1
1,2 - Dichloroethane	<1	<1	<1
1,1 - Dichloroethylene	<1	<1	<1
1,2 - Dichloropropane	<1	<1	<1
cis - 1,3 - Dichloropropylene	<1	<1	<1
trans - 1,3 - Dichloropropylene	<1	<1	<1
Ethylbenzene	<1	<1	<1
Methyl bromide	<1	<1	<1
Methyl chloride	<1	<1	<1
Methylene chloride	9	38	20,000
1,1,2,2 - Tetrachloroethene	<1	<1	<1
Tetrachloroethylene	<1	<1	<1
Toluene	<1	2	7,200
1,2 - Trans-dichloroethylene	<1	<1	<1
1,1,1 - Trichloroethane	<1	<1	<1
1,1,2 - Trichloroethane	<1	<1	<1
Trichlorofluoromethane	<1	<1	<1
Vinyl Chloride	<1	<1	<1

a) Results are in ug/L
b) Results are in ug/g

WGK 1482950

Table 2 Summary of USEPA Priority Pollutant Extractable Compounds in Ground Water and Soil, Monsanto Company, W.G. Krummrich Plant, Sauget, Illinois.[a]

Parameter	GM-4A[a] 11-83	5-84	BG-14[b] 8.5-10 Feet 8-84
2 - Chlorophenol	<1	<1	<1
2,4 - Dichlorophenol	<1	<1	<1
2,4 - Dimethylphenol	<1	<1	<1
4,6 - Dinitro-o-cresol	<1	<1	<1
2,4 - Dinitrophenol	<1	<1	<1
2 - Nitrophenol	<1	<1	<1
4 - Nitrophenol	<1	<1	<1
p - Chloro-m-cresol	<1	<1	<1
Pentochlorophenol	<1	<1	<1
Phenol	<1	<1	<1
2,4,6 - Trichlorophenol			

a) Results are in ug/L
b) Results are in ug/g

Table 3 Summary of USEPA Priority Pollutant Base/Neutral Extractable Compounds in Ground Water and Soil, Monsanto Company, W.G. Krummrich Plant, Sauget, Illinois.

Parameter	GM-4A[a] 11-83	5-84	BG-14[b] 8.5-10 Feet 8-84
Acenaphthene	<1	<1	<1
Acenapthylene	<1	<1	<1
Anthracene	<1	<1	<1
Benzidine	<1	<1	<1
Benzo(a)anthracene	<1	<1	<1
Benzo(a)pyrene	<1	<1	<1
Benzo(b)fluoroanthene	<1	<1	<1
Benzo(ghi)perylene	<1	<1	<1
Benzo(k)fluoranthene	<1	<1	<1
bis (2 - Chloroethoxy) methane	<1	<1	<1
bis (2 - Chloroethyl) ether	<1	<1	<1
bis (2 - Chloroisoprophy) ether	<1	<1	<1
bis (2 - Ethylhexyl) phthalate	<1	2	392
4 - Bromophenyl phenyl ether	<1	<1	<1
Butyl benzyl phthalate	<1	<1	<1
2 - Chloronaphthalene	<1	<1	<1
4 - Chlorophenyl phenyl ether	<1	<1	<1
Chrysene	<1	<1	<1
Dibenzo (a, L) anthracene	<1	<1	<1
1,2 - Dichlorobenzene	<1	<1	<1
1,3 - Dichlorobenzene	<1	<1	<1
1,4 - Dichlorobenzene	<1	<1	<1
3,3' - Dichlorobenzidine	<7	<1	<1
Diethyl phthalate	<1	1	<1
Dimethyl phthalate	<1	<1	<1
Di-n-butyl phthalate	2	3	206
2,4 - dinitrotoluene	<1	<1	<1
2,6 - dinitrotoluene	<1	<1	<1
Di-n-octyl - phthalate	<1	<1	<1
1,2 Diphenylhydrazine	<1	<1	<1
Fluoranthene	<1	<1	<1
Fluorene	<1	<1	43
Hexachlorobenzene	<1	<1	<1
Hexachlorobutadiene	<1	<1	<1
Hexachlorocyclopentadiene	<1	<1	<1
Hexachloroethane	<1	<1	<1
Naphthalene	<1	<1	<1
Nitrobenzene	<1	<1	<1
N-Nitrosodimethylamine	<1	<1	<1
N-Nitrosodi-n-propylamine	<1	<1	<1
N-Nitrosodiphenylamine	<1	<1	<1
Phenanthrene	<1	<1	479
Pyrene	<1	<1	<1
1,2,4 - Trichlorobenzene	<1	<1	<1

a) Results are in ug/L
b) Results are un ug/g

Table 4 Summary of USEPA Priority Pollutant Compounds in ground Water and Soil, Monsanto Company, W.G. Krumrich Plant, Sauget, Illinois

Parameter	GM-4A[a] 11-83	5-84	BG-14[b] 8.5-10 Feet 8-84
Aldrin	<1	<1	<0.4
Alpha - BHC	<1	<1	<0.2
Beta - BHC	<1	<1	<0.5
Gamma - BHC	<1	<1	<0.3
Delta - BHC	<1	<1	<0.4
Chlordane	<1	<1	<6.1
4.4' - DDT	<1	<1	<9.6
4,4' - DDE	<1	<1	<0.07
4,4' - DDD	<1	<1	<0.07
Dieldrin	<1	<1	<0.007
Endosulfan I	<1	<1	<440
Endosulfan II	<1	<1	<0.011
Endosulfan Sulfate	<1	<1	<0.042
Endrin	<1	<1	<0.020
Endrin Aldeluide	<1	<1	<0.022
Heptachlor	<1	<1	<0.4
Heptachlor epoxide	<1	<1	<0.5
PCB - 1016	<1	<1	<3.4
PCB - 1221	<1	<1	<13.3
PCB - 1232	<1	<1	<6.2
PCB - 1242	<1	<1	<8.2
PCB - 1248	<1	<1	<8.6
PCB - 1254	<1	<1	<12.3
PCB - 1260	<1	<1	<17.4
Toxaphene	<1	<1	<69.4

a) Results are in ug/L
b) Results are in ug/g

Table 5 Summary of USEPA Priority Pollutant Metals and Miscellaneous Parameters in Well GM-4A, Monsanto Company, W.G. Krummrich Plant, Sauget, Illinois (concentrations are in ug/L except where noted).

Parameter	11-83	2-84	5-84
USEPA Priority Pollutant Metals			
Antimony	0.014	NA[a]	<0.5
Arsenic	<0.002	NA[a]	<0.01
Beryllium	0.017	NA[a]	<0.01
Cadmium	<0.01	NA[a]	<0.02
Chromium	<0.04	NA[a]	<0.05
Copper	NA	NA[a]	NA
Lead	<01001	NA[a]	<0.01
Mercury	<0.0002	NA[a]	<0.0005
Nickel	<0.04	NA[a]	<0.05
Selenium	<0.002	NA[a]	<0.01
Silver	<0.001	NA[a]	<0.05
Thallium	0.003	NA[a]	<0.2
Zinc	0.014	NA[a]	0.03
Miscellaneous Parameters			
pH (units)	7.8	7.6	7.1
Specific Conductance (umhos/cm)	1,050	850	1,050
Temperature (^{o}C)	12	14	14
TOC	42	12	6
Total Phenols (ug/L)	0.004	<0.002	0.003
TOX (ug/L)	17	19	7
Chloride	NA	45	76
Cyanide	<0,005	NA	<0.005

a) Not analyzed

SWMU #22

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

Facility: Monsanto-Krummrich **Date:** 9/14/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Facility Landfill - Central Area (suspected)

LDF Unit: Y or N **Type of Unit:** Landfill

Location (identify deparmtent and orientation of unit): This suspected landfill is alleged to be in the area of the Chlorobenzene department.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): This suspected landfill was reported in earlier Part a filings based on heresay evidence. No records could be found in WGK's files that showed a landfill in this area. Because no documentation or evidence could be found substantiating this landfill, it was removed from Krummrich 12/8/86 Part A submittal.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): _____

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

ATTACHMENT 1

LANDFILLS

The W. G. Krummrich Plant does not operate a landfill at the present time. Four separate landfills have been used in the past. These are listed below along with a description and location of each. This information is based on available drawings and documentation.

1) Old Dump - Located at the site of existing plant storeroom and the adjacent area. 1942 plant drawing shows that this landfill was closed and filled-in by that date. Approximate size of the landfill is 150' X 175'. The landfill was used primarily as a disposal site for Nitrochlorobenzene waste.

   During a sewer construction project, some waste drums were uncovered in this landfill area. They were found to contain 2-Nitrobiphenyl and 4-Nitrobiphenyl. All unearthed drums were removed from the project area and will be incinerated at an approved disposal site.

2) New Dump - This closed landfill is located at the site of Bldg. BBK in the southwestern portion of the plant. This landfill is approximately 75' X 100' and had been in operation at least through the years of 1942 to 1951.

3) Phenol Residue Dump - This closed landfill is located on the western side of the plant approximately 400 ft. due north of the (2) above-mentioned landfills. The landfill encompasses an area of 75' X 100' and primarily contains residue from the now-extinct Phenol Department. The landfill was in operation in 1942 and the best available data indicates that it was closed before 1951.

4) Lot F Landfill - This landfill is located on W. G. Krummrich Plant property west of State Route 3. A 1946 drawing indicates that a landfill approximately 42' X 248' with a maximum depth of 18 ft. contains 5260 drums from the Nitrochlorobenzene Dept. Alleged contents of the drums include Orthonitrochlorobenzene and Dinitrochlorobenzene waste residue and drainings. Preliminary sampling of drums in the landfill indicate that some contain 2-Nitrobiphenyl and 4-Nitrobiphenyl.

In addition to the above, it is suspected that some undocumented landfill activity occurred near the site of the BBU Warehouse (RCRA waste container storage area). Two abandoned tanks containing solid hazardous constituents were unearthed in this area during the excavation for a plant project.

The items listed above are based on the best information available to date. This document supercedes all previous submittals and this information indicates the nonexistence of some landfills listed on the Part A document. No evidence or documentation to date has substantiated the existence of those landfills.

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET SWMU #15

Facility: Monsanto-Krummrich **Date:** 9/8/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: BBU Waste Warehouse

LDF Unit: Y or N **Type of Unit:** Waste Storage Warehouse (790 day)

Location (identify deparmtent and orientation of unit): The warehouse is located in the southwest corner of the plant.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): The BBU waste warehouse was opened in 1984. The warehouse is 50' x 100' and is a roofed building that has secondary containment. Secondary containment consists of a 1' concrete dike that surrounds the storage area. The floor of the warehouse is a 6" concrete slab floor. The warehouse is permitted to store 400,000 gallons of RCRA waste (see 1984 Part A). Waste is transported to BBU by plant personnel from the various operating departments waste accumulation areas.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): For list of waste stored at BBU see attached.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

The warehouse is an enclosed concrete pad measuring 50' x 100'. The pad has secondary containment.

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

SWMU #11

Facility: Monsanto-Krummrich **Date:** 9-14-92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Methyl Iso Butyl Ketone Residue Tanks #232, 268 and 271

LDF Unit: Y or N **Type of Unit:** Waste Storage Tanks

Location (identify deparmtent and orientation of unit): The Methyl Iso Butyl Ketone tanks were located in Department 247.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): MIBK residue tanks, Item #232, 268 and 271, were constructed of carbon steel and had capacities of 3,000, 2250 and 3,000 gallons respectively. The residue stored in these tanks was the result of the recovery of ketone reactants. Closure certification was mailed to the agency in February 1989. The tanks received closure in 1990.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): The residue was composed of either MIAK (Methyl Iso Amyl Keton) or MIBK (Methyl Iso Butyl residue). Both materials demonstrated the characteristics of ignitability (D001).

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

The tanks sat on a concrete base behind 6" curbs.

SWMU #26

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

Facility: Monsanto-Krummrich **Date:** 9/11/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: "Old Dump" (or Site #1)

LDF Unit: Y or N **Type of Unit:** Facility landfill

Location (identify deparmtent and orientation of unit): This area is located on the southeast corner of BBW and extends across 5th Street in the southwest area of the plant.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): The landfill is approximately 150' x 175'. A 1942 plant map indicates that this fill was closed and filled in by that year. The "old dump" was primarily used for the disposal of Nitrochlorobenzene waste. A storeroom and part of the ACL unit were built on top of the fill.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): Nitrochlorobenzene waste, such as 2-Nitrobiphenyl and 4-Nitrobiphenyl were found during construction in that area.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

SWMU #27

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

Facility: Monsanto-Krummrich **Date:** 9/11/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Facility Landfill-Building BBK ("New Dump")

LDF Unit: Y or N **Type of Unit:** Landfill

Location (identify deparmtent and orientation of unit): This landfill is located at the southwest corner of Building BBK (ACL Department).

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): This landfill is 75' x 100' and was in operation between the years of 1942 and 1951.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): We have no records indicating what waste was placed in this fill.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

SWMU #28

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

Facility: Monsanto-Krummrich **Date:** 9/14/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Phenol Residue Site

LDF Unit: Y or N **Type of Unit:** Landfill

Location (identify deparmtent and orientation of unit): The phenol residue site is located in the west central area of the plant, near 3rd and H Streets.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): The phenol residue site measures 75' x 100' and was closed before 1951. This site holds wastes associated with the produciton of phenol. Manufacturing units and roads are constructed on top of this site.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): The wastes in this site was associated with the production of phenol.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

SWMU #29

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

Facility: Monsanto-Krummrich **Date:** _____

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Route 3 Drumsite

LDF Unit: Y or N **Type of Unit:** Landfill

Location (identify deparmtent and orientation of unit): This site is located in Lot F, which is west of the manufacturing area across Route 3 in the southwest corner.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): The Route 3 drum site is approximately 42' x 248' and has a depth of 18'. The fill contained approximately 5200 drums of waste from the Nitrochlorobenzene department. Some of the drums have been removed and the area has been capped.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): The waste may include Orthonitrochlorobenzene, Dinitrochlorobenzene, 2-Nitrobiphenyl and 4-Nitrobiphenyl (see attached for additional analytical information).

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

SWMU #30

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

Facility: Monsanto-Krummrich **Date:** 9/14/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Suspected landfill

LDF Unit: Y or N **Type of Unit:** Landfill

Location (identify deparmtent and orientation of unit): This site is located a few yards north of BBU warehouse and just south of the "Big Mo" benzene storage tank.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): Two abandoned tanks that contained solid hazardous constituents were found in this area during a construction project. This is the only evidence of any landfill activity in the area. Before BBU was built, the area was occasionally used as a coal storage area.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): Sample analysis of the material found in the unearthed tanks showed the following hazardous constituents:

Orthochlorophenol 0.07%, Parachlorophenol 2.29%, 2-4 Dichlorophenol 0.13%, Trichlorophenol 0.56%, Tetrachlorophenol 9.0%, Pentachlorophenol 0.006%. A sample analysis of the soil around the tanks indicated no contamination.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

ATTACHMENT 3

Monsanto Company
W.G. Krummrich Plant
EPA ID: ILD 000802702

While no data exists (with the exception of the unearthed tanks) indicating any prior or current releases of hazardous wastes to the environment (as per our response to Question 3) we wish to advise you that Monsanto has retained Geraghty & Miller, Inc. to study the site's groundwater conditions. The hydrogeologic investigation is underway and is scheduled for completion in 1986. At that time, Monsanto will be in a position to discuss the findings of the study with the E.P.A.

Sample analysis of the contents of the two unearthed tanks showed the following hazardous constituent compositions:

	%
Orthochlorophenol	0.07
Parachlorophenol	2.29
2-4 Dichlorophenol	0.13
Trichlorophenol	0.56
Tetrachlorophenol	9.05
Pentachlorophenol	0.006

It should be noted that sample analysis of soil from around the tanks did not indicate the presence of any hazardous constituents.

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET SWMU #31

Facility: Monsanto-Krummrich **Date:** 9/11/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Old Discharge Pond

LDF Unit: Y or N **Type of Unit:** Surface Impoundment

Location (identify deparmtent and orientation of unit): This site is located east and north of Department 277

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): The "old discharge pond" measures 125' x 125' and was used by the Sulfuric Acid Department from 1942 until 1951

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): No information exists on the material discharged into that area.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

SWMU #32

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

Facility: Monsanto-Krummrich **Date:** 9/11/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Sulfate Pond

LDF Unit: Y or N **Type of Unit:** Surface Impoundment

Location (identify deparmtent and orientation of unit): This site is located directly east of Department 277.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): The sulfate pond was part of the unit that manufactured phenol. The approximately size of the pond was 300' x 75'. The pond was operational from 1942 to 1952.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): This pond contained sodium sulfate.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET SWMU #33

Facility: Monsanto-Krummrich **Date:** 9/14/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: "Old Pond"

LDF Unit: Y or N **Type of Unit:** Surface Impoundment

Location (identify deparmtent and orientation of unit): This site is located in the southwest central area of the plant directly under Building BBZ (Storeroom).

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): The unit is approximately 375' x 75'. The only records found indicate that this fill was closed and filled by 1942.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): No records were found taht identified the material in the pond.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

SWMU #34

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

Facility: Monsanto-Krummrich **Date:** 9/14/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Incinerator Site

LDF Unit: Y or N **Type of Unit:** _____

Location (identify deparmtent and orientation of unit): The incinerator was located at 4th and G Streets.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): The incinerator was built in 1971 and operated until 1977, when it was shutdown and dismantled. A total of 151,000 tons of organic waste was incinerated at this unit during its operation. At this time, there is no incinerator in operation at Krummrich

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): The incinerator handled the following material: chemical intermediates, halogenated aromatics, polychlorinated biphenyls, plasticizers, polar solvent, and halogenated aromatic solvents.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

The incinerator sat on a concrete and rebar base.

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET SWMU #35

Facility: Monsanto-Krummrich **Date:** 9/12/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Condensate Tank Item 612 (PNA Separator Tank)

LDF Unit: Y or N **Type of Unit:** Storage Tank

Location (identify deparmtent and orientation of unit): Item 612 is located in Department 222 (Paranitroaniline).

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): The condensate tank is a 4,700 gallon carbon steel vessel. The dimensions of this vessel are 9.5' H x 9.0'D.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): The contents of the tank are: Paranitrochlorobenzene, Paranitroaniline (P077), Nitrochlorobenzene.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

The condensate tank is part of the manufacturing unit and is in the upper levels of the department. However, the floor of the department is concrete, no burm or secondary containment.

92

SWMU #36

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

Facility: Monsanto Krummrich **Date:** 9/16/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Department 237 Storage Tank, Item 210

LDF Unit: Y or N **Type of Unit:** Storage Tank

Location (identify deparmtent and orientation of unit): The tank sat near the corner of 3rd and Falling Springs Road south of Building BR.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): This tank held residue from Santophen. Tank #210 was a 16,000 gallon stell tank and sat behind a concrete dike and on a concrete pad. The tank was put into service in 1979 and shut-down in 1981. The tank was dismantled in 1982.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): The waste was residue from the Santophen process.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

Tank sat on a concrete base behind a 4' concrete dike.

SWMU #7

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

Facility: Monsanto-Krummrich **Date:** 9/10/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Benzyl Chloride Residue Tank, Item 189

LDF Unit: Y or N **Type of Unit:** Storage Tank

Location (identify deparmtent and orientation of unit): Tank #189 was located in Department 229.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): Tank #189 was a 14,000 gallon FRP (Fiberglass Reinforced Plastic). This was was entirely above ground and diked. The tank was removed from service in 1982.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): The tank stored a waste that had hazardous constituents. The composition of this K015 liquid waste is as follows: 75% Benzal Chloride; 15% Benzyl Chloride; 10% Highboils.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

The tank was positioned behind a dike constructed of concrete and rebar.

SWMU #38

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

Facility: Monsanto-Krummrich **Date:** 9/14/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: PCB Warehouse

LDF Unit: Y or N **Type of Unit:** Waste Storage Facility

Location (identify deparmtent and orientation of unit): This site is located in the central manufacturing area due west of the incinerator site.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): This was was used from 1979 to 1982 when it was shutdown and dismantled. The last shipment of waste to this area was made in November 1981. The inventory of the warehouse for the years it was in operation were as follows: 1979 - 361k lbs.; 1980 - 634 k lbs.; 1981 - 1063k lbs. and 1982 - 0

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): PCB wastes

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

Concrete and rebar pad with a 6" curb.

SWMU #39

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

Facility: Monsanto-Krummrich **Date:** 9/14/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Chlor/Alkali Waste Detox Unit

LDF Unit: Y or N **Type of Unit:** Waste Water Detoxification Unit

Location (identify deparmtent and orientation of unit): This unit was located in the Chlor/Alkali department which was in the southeastern section of the plant.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): This facility began operations in 1980 and involved the treatment of mercury cell house brine solids for the removal of leachable mercury. The major process features included a 3,000 gallon reactor and a 27-3 yard metal roll off treatment box. The Chlor/Alkali department was shutdown and dismantled in the mid 1980's.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): Cell house brine solid waste with leachable mercury.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

SWMU #40

Facility: Monsanto-Krummrich **Date:** 9/9/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: High Boiler Purge Tank, Item 552

LDF Unit: Y or N **Type of Unit:** Waste Storage Tank

Location (identify deparmtent and orientation of unit): Located in Department 221 in the north central area of the plant.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): The high boiler purge tank, Item 552, is a 5 year old, 6,000 gallon vertical carbon steel tank. This tank replaces its predecessor in 1987. The tank roof is a self supporting dome. The shell and floor plate thickness is 500 of an inch.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): The composition of the waste in tank 552 is as follows: Meta Nitrochlorobenzene 25-55%, Paranitrochlorobenzene 15-45%, Orthonitrochlorobenzene 10-40%, Monochlorbenzene 0-2%, Dinitrochlorbenzene 0-20%, Dichlornitrobenzene 0-1% and water 0-0.20%.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

Tank 552 is entirely above grade and rests on a concrete foundation. As a result, no metal components are in contact with soil or water. There is secondary containment present (4 1/2' dike wall and concrete floor).

SWMU #41

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

Facility: Monsanto-Krummrich **Date:** 9/9/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Spent Carbon Tank, Item 767

LDF Unit: Y or N **Type of Unit:** Waste Storage/Treatment Tank

Location (identify deparmtent and orientation of unit): Tank 767 is located in the south central area of Department 233.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): Tank 767 is <3 years old. It is a rubber lined carbon steel tank that has a capacity of 5,800 gallons.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): The tank stores spent carbon from Department 233. The carbon is sent off for regeneration. The composition is 67% washwater and 33% carbon. The pH varies between 1 and 8 and tehre is a trace amount of benzene.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

The tank rests on a concrete pad and is entirely above grade. There is no secondary containment at this time.

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET SWMU #8

Facility: Monsanto-Krummrich **Date:** 9/3/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Department 224/233 Drum Accumulation Area

LDF Unit: Y or N **Type of Unit:** Drum Accmulation Area

Location (identify deparmtent and orientation of unit): The accumulation area for Dept. 224 is north side of 3rd street just west of Falling Springs Road. Dept. 233 has two areas, south side of 3rd Street at Falling Springs, and at 4th and D Streets northeast corner.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): Dept. 224's pad is concrete. Dept. 233's pads are constructed of asphalt. The pads are not burmed or diked. These areas are waste accumulation sites. Wastes that are generated, packaged, and labelled in the units are placed on pallets at these locations. The drums may be kept here for a maximum period of 3 days. Drums are transferred to BBU waste warehouse from these areas. No long term waste storage activity occurred at this location.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): Dept. 224 generates wastes associated with Nitrochlorobenzene, Dept. 233 generator wastes associated with Chlorobenzene. Waste includes oil and Therminol, contaminated debris, off-spec product. Waste Codes included D018, D021, D027, and D008.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

Department 224's pad is concrete. Both of Department 233 pads are construction of asphalt.

SWMU #43

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

Facility: Monsanto-Krummrich **Date:** 9/15/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Drum Storage Area, north of Big Mo

LDF Unit: Y or N **Type of Unit:** Drum Storage Area

Location (identify deparmtent and orientation of unit): This site was located in the southwestern area of the plant at 5th Street and Route 3.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): The only information available on this site is from aerial photograph. From the photographs, it appears that there were 4 stalls containing 2-3 rows of drums. Information was also gathered from interviews with plant personnel. Plant employees remember empty drums and full product drums being stored in this area. No one could remember waste being stored there.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): _____

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

Asphalt

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

SWMU #49

Facility: Monsanto-Krummrich **Date:** 9/15/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: South Lot Drum Site

LDF Unit: Y or N **Type of Unit:** Facility Landfill

Location (identify deparmtent and orientation of unit): This site is located in the southwestern area of the plant, south of 5th Street near the 5th and H Street intersection.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): The south lot drum site was found in mid-1986 during construction of an addition to the ACL cooling tower. 30 drums of waste material were recovered from this area. There is a no information available concerning the area measurement. However, during the drum recovery excavation, a depth of 40' was reached. A cooling tower and associated buildings are now that area.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): See attached.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

Monsanto

Monsanto Chemical Company
500 Monsanto Ave
Sauget, Illinois 62206-1198
Phone: (618) 271-5835

July 30, 1986

Mr. Basil Constantelos, Director
Waste Management Division
Region V
U.S. Environmental Protection Agency
230 South Dearborn Street
Chicago, Illinois 60604

Dear Mr. Constantelos:

When we initiated construction of a facility addition in the southwest corner of our site (see Attachment I map, item 13), a contractor exposed a buried drum. The drum was physically intact and construction was halted. A hazardous materials contracting firm was called in to remove the drum which was overpacked and stored in our waste storage building. A total of five drums were recovered, overpacked, sampled, and stored in our waste storage building.

Following assessment of the site, which was not indicated as a past disposal site by any of our records or previous studies, the hazardous waste contractor returned to the site. He then proceeded to remove an additional 25 drums from the area which eventually reached a size of approximately 40 feet wide, 45 feet long, and 4 feet deep. This made a total of 30 drums removed from the area which along with visibly contaminated soil were placed in 32 overpacks. These drums have been sampled and stored in our waste warehouse.

Priority pollutant analyses of the first five drums (one of which was empty) are shown in Attachment II. The low percentage of identified material was not particularly surprising given the tarry, carbonaceous nature of the material in the drums. As shown the first two drums contained benzidine at 0.39 percent and 0.14 percent, respectively. As this material is a listed OSHA carcinogen above the 0.1 percent level (Title 29, Section 1910.1010),

we created a regulated area, labeled the affected drums, and informed OSHA per the regulations. The other drums that we had removed were included in the regulated area as a precautionary measure pending analysis. The presence of a high level of chlorophenols in Drum 1 made us suspicious that dioxin was possibly present. As a result the drums were analyzed for 2,3,7,8 TCDD. Drum 1 analyzed at 74 ppb and it was not detected in the other drums. Following receipt of these results, soils at the site were tested for 2,3,7,8 TCDD and benzidine. In the two soil samples taken, benzidine was not detected. Dioxin samples were taken from the 4 feet depth level and from a composite of the soil surrounding the drums. Analysis of these samples for 2,3,7,8 TCDD are shown in Attachment III.

Additionally, surface core samples were taken surrounding the site. These analyses are also shown in Attachment III.

Following completion of our analytical program, the hazardous materials contractor returned to the site to appropriately mitigate it. Steel sleeves were installed at a depth of 4-4½ feet below grade and partially filled with clean soil and crushed rock. This provided a clear path for future pile driving without creating a verticle migration situation. Around the steel sleeves the soil was recompacted, overlayed with geotextile material, and covered with a 3" minimum thickness of crushed rock. The crushed rock layer was extended approximately 50 feet in all directions from the site boundary. This completed mitigation of the site and the hazardous materials contractor left the premises. No exposure to drum contents occurred and all work of the hazardous materials contractor was in modified class B protection.

A review of our earlier soil sampling survey (1985) which included analyses for 2,3,7,8 TCDD did not cover this specific area. That survey was industrial hygiene based and covered suspected sites where the material may have been handled, areas of high personnel density, and random areas to insure that all major areas of the plant were covered. This specific site simply was not selected for coverage under these criteria.

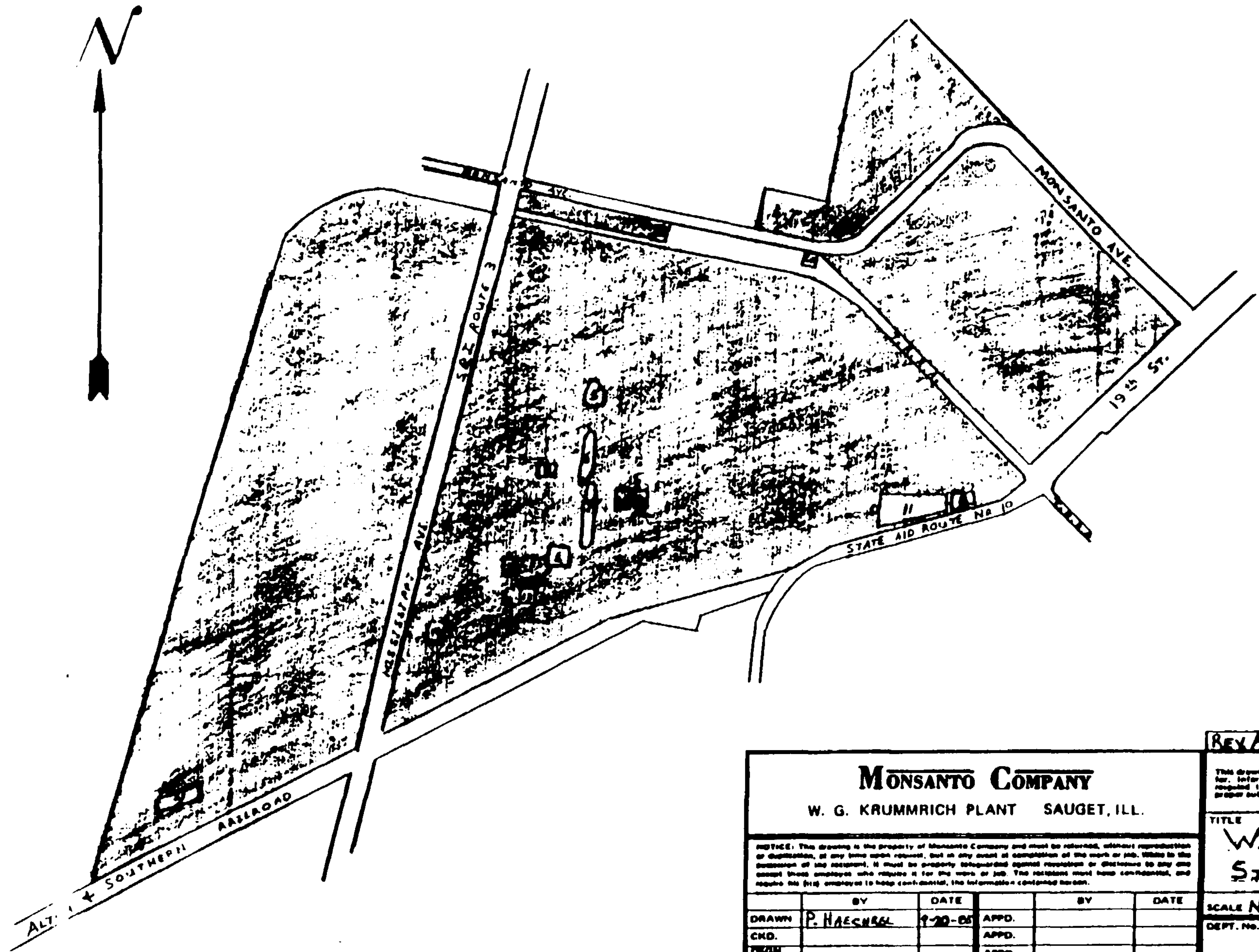
Routine construction of the originally planned project in this area is now in progress with particular care being taken to avoid breaching the mitigating cover.

Sincerely,

Warren L. Smull
General Superintendent
Environmental Affairs

bjj
Attachments

cc: Mr. B. Child, Illinois EPA
Mr. K. Mensing, Collinsville IEPA



LEGEND

1. Old Dump
2. New Dump
3. Phenol Residue Dump
4. Lot F Landfill
5. Discharge Pond
6. Sulfate Pond
7. Old Pond
8. Chlor/Alkali Waste Pile
9. Incinerator
10. PCB Warehouse
11. Chlor/Alkali Wastewater Treatment Unit
12. Suspected Landfill
13. South Lot Drumsite

REV A | 7-23-86 | South Lot Drumsite Added

MONSANTO COMPANY

W. G. KRUMMRICH PLANT SAUGET, ILL.

COMPANY CONFIDENTIAL

TITLE: W.G.K. Waste Storage Sites – Amendment A

	BY	DATE		BY	DATE
DRAWN	P. Haeckrel	9-20-85	APPD.		
CKD.			APPD.		
DSGN. APPD.			APPD.		

SCALE: NONE | JOB NO. | EST. NO.

DEPT. No. | IDENTITY | DRAWING NUMBER | REV A

ATTACHMENT I

ATTACHMENT II

Drum Analysis (ppm)

	Drum Number				
	1	2	3	4	5
Methylene Chloride	38	90	36	14	E
2,4-Dichlorophenol	562	N.D.	N.D.	16	m
Pentachlorophenol	11,500	717	N.D.	742	p
2,4,6 Trichlorophenol	205,000	203	402	231	t
Benzidine	3,940	1390	N.D.	N.D.	y
4-Chlorophenyl phenol ether	<41	N.D.	N.D.	N.D.	
Hexachlorobenzene	28	69	950	196	D
Toluene	N.D.	7	9	15	r
Naphthalene	N.D.	102	176	N.D.	u
Phenanthrene	N.D.	<50	2,500	1,100	m
1,2,4-Trichlorobenzene	N.D.	<17	22	31	
Carbon Tetrachloride	N.D.	N.D.	<1	N.D.	N
Chloroform	N.D.	N.D.	10	1	o
Anthracene	N.D.	N.D.	997	929	
Phenol	N.D.	N.D.	N.D.	<8	S
Benzo (a) pyrene	N.D.	N.D.	N.D.	8	a
Benzo (b) fluoranthene	N.D.	N.D.	N.D.	<5	m
Benzo (ghi) perylene	N.D.	N.D.	N.D.	4	p
Benzo (k) fluoranthene	N.D.	N.D.	N.D.	4	l
1,2-Dichlorobenzene	N.D.	N.D.	N.D.	12	e
4,4'-DDE	N.D.	N.D.	N.D.	108	
2,3,7,8-TCDD	0.074	N.D.	N.D.	N.D.	

< x = present at less than minimum detection limit of x ppm.

Priority pollutant compounds not listed were not detected.

N.D. = not detected

ATTACHMENT III

Soil Samples

- **Benzidine Samples**

  Sample 1 - N.D.

  Sample 2 - N.D.

- **2,3,7,8-TCDD Samples**

  4' Below Grade

  Center - 0.2 ppb
  - 0.3 ppb (replicate)

  N/W Composite - N.D.

  S/E Composite - 0.6 ppb

  Composite of Soil Surrounding Drums

  1st half of composite - 5.9 ppb
  - 4.3 ppb (replicate)

  2nd half of composite - 8.7 ppb

- **Surface Cores**

50' N of NE corner of area	0.1 ppb
50' N of NW corner of area	0.1 ppb
50' W of NW corner of area	0.1 ppb
50' W of SW corner of area	0.1 ppb
50' S of SW corner of area	0.4 ppb
50' S of SE corner of area	0.4 ppb
39' E of SE corner of area	0.2 ppb
39' E of NE corner of area	0.5 ppb

N.D. = not detected

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET SWMU #45

Facility: Monsanto-Krummrich **Date:** 9/17/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Department 233 Drum Accumulation Area (south)

LDF Unit: Y or N **Type of Unit:** Drum Accumulation Area

Location (identify deparmtent and orientation of unit): This drum accumulation area is located at 4th and D Streets.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): This site is constructed of concrete and asphalt. This area is not burmed or diked. Waste drums are placed here for transportation to BBU warehouse. The drums are moved to the waste warehouse from this area within 3 days. No long term drum storage occurs here.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): Wastes associated with the production of Monochlorobenzene, waste oil and Therminol, contaminated debris, off-spec product. Waste codes include: D018, D021, D027, and D008.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography): The area is concrete and asphalt, no burmer secondary containment is present.

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET SWMU #46

Facility: Monsanto-Krummrich **Date:** 9/16/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Department 277 - Drainage Trenches

LDF Unit: Y or N **Type of Unit:** Waste Water Drainage System

Location (identify deparmtent and orientation of unit): This trench system is located in Department 277, which is in the northwest section of the facility.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): Trenches were constructed in 1986 with operations beginning in 12/86 - 1/87. The trenches surround the department. They collect the waste water from the unit and carry it to the sump (SWMU #69).

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): Wastewater from the Santoflex production unit. Water contains various ketones (MIBK, MIAK, MEK) at minor concentrations.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

The trenches are constructed of 6" concrete with a metal grate on top. The area around the sump is asphalt and concrete.

63

SWMU #47

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

Facility: Monsanto-Krummrich **Date:** 9/14/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Department 243 Drum Accumulation Area

LDF Unit: Y or N **Type of Unit:** Drum Accumulation Area

Location (identify deparmtent and orientation of unit): Department 243 was the most eastern unit in the plant. The drum accumulation area was located in the north central area of the unit on 2nd Street.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): The drum accumulation area in PCl_3 was an area where drummed and labelled waste was placed until transportation could be arranged to BBU waste warehouse. The maximum storage time for drums in this area was three days. The area was constructed of concrete. The PCl_3 department was shutdown in early 1992 and dismantled in July and August 1992.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): The wastes managed at this site were waste phosphorous (D003, D008) and waste Therminol (D008, D018).

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

The waste drum accumulation area was made of concrete. There was no burm or secondary containment.

SWMU #49

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

Facility: Monsanto-Krummrich **Date:** 9/15/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: South Lot Drum Site

LDF Unit: Y or N **Type of Unit:** Facility Landfill

Location (identify deparmtent and orientation of unit): This site is located in the southwestern area of the plant, south of 5th Street near the 5th and H Street intersection.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): The south lot drum site was found in mid-1986 during construction of an addition to the ACL cooling tower. 30 drums of waste material were recovered from this area. There is a no information available concerning the area measurement. However, during the drum recovery excavation, a depth of 40' was reached. A cooling tower and associated buildings are now that area.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): See attached.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

Monsanto

FROM: Paul J. Haechrel

DATE: November 10, 1986

TO: Warren L. Smull

SUBJECT: South Lot Drumsite - Sample Analysis

REFERENCE:

TO: FILE

Attached is the summary of the priority pollutant sample analy
completed by E.T.C. for the drums unearthed at the South Lot I

Paul J. Haechrel

/bjj
Attachment

SOUTH LOT DRUM SITE
SOIL SAMPLE PRIORITY POLLUTANT RESULTS (PPM)

Base/Neutral Compounds	South End	North End
Acenaphthene	0.1	<0.06
Anthracene	0.2	ND
Benzo(a)Anthracene	0.5	0.3
Benzo(a)Pyrene	0.6	ND
Benzo(b)Fluoranthene	ND	0.3
Benzo(k)Fluoranthene	0.4	ND
bis(2-Ethylhexyl)Phthalate	ND	0.3
4-Chlorophenyl Phenyl Ether	0.7	ND
Chrysene	0.9	0.5
1,2-Dichlorobenzene	<0.06	0.1
1,3-Dichlorobenzene	ND	0.06
1,4-Dichlorobenzene	<0.06	0.3
Fluoranthene	1	0.5
Fluorene	0.2	ND
Hexachlorobenzene	0.5	4
Naphthalene	0.08	0.1
Nitrobenzene	ND	0.3
Phenanthrene	2	0.5
Pyrene	5	1
1,2,4-Trichlorobenzene	ND	26

ND = Not Detected
<X = Present at less than minimum detection limit of X ppm.

SOUTH LOT DRUMSITE
2,3,7,8-TCDD ANALYTICAL RESULTS

Sample		2,3,7,8-TCDD (ppb)
Drum No.	1	74
	2	ND
	3	ND
	4	ND
Soil:	North End	ND
	South End	4.6

ND = Not Detected

SOUTH LOT DRUM SITE - PRIORITY POLLUTANT ANALYSIS (PPM)

	Drum Number							
	1	2	3	4	5	6	7	8
Volatile Compounds								
Benzene	ND	ND	ND	ND	-	ND	0.005	ND
Carbon Tetrachloride	ND	ND	<1	ND	-	ND	ND	0.03
Chlorobenzene	ND	ND	ND	ND	-	ND	0.1	<30
Chloroform	ND	ND	10	1	-	ND	ND	ND
1,1-Dichloroethylene	ND	ND	ND	ND	-	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	-	ND	ND	ND
Methylene Chloride	38	90	36	14	-	.04	0.6	0.3
Tetrachloroethylene	ND	ND	ND	ND	-	ND	ND	0.05
Toluene	ND	7	9	15	-	<0.02	0.01	0.1
Acid Compounds								
2-Chlorophenol	ND	ND	ND	ND	-	ND	ND	ND
2,4-Dichlorophenol	562	ND	ND	16	-	ND	<230	4
p-Chloro-m-Cresol	ND	ND	ND	ND	-	ND	ND	ND
Pentachlorophenol	11,500	717	ND	742	-	261	903	11000
Phenol	ND	ND	ND	<8	-	ND	ND	ND
2,4,6-Trichlorophenol	205,000	203	402	231	-	194	21800	71

NOTES:

1) Drum No. 5 was empty. No sample was taken.
2) ND = Not Detected.
3) <X = Present at less than minimum detection limit of X ppm.
4) Priority pollutant compounds not listed were not detected.

SOUTH LOT DRUM SITE - PRIO[illegible]Y POLLUTANT ANALYSIS (PPM)

	Drum Number							
	9	10	11	12	13	14	15	16
[illegible]atile Comp[illegible]unds								
[illegible]zene	ND	ND	ND	ND	ND	ND	ND	ND
C[illegible]bon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND
Ch[illegible]orobenzene	<15	<0.006	ND	ND	ND	ND	ND	ND
Chloroform	7	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ND	ND	ND	ND	ND	<0.04	ND	ND
E[illegible]ylbenzene	ND	ND	ND	ND	3	1	0.003	0.5
M[illegible]hylene Chloride	83	0.03	0.04	28	ND	ND	ND	<0.002
T[illegible]rachloroethylene	ND	ND	ND	ND	ND	2	0.007	0.06
T[illegible]luene	36	0.1	0.07	24	22			
[illegible]d Compounds								
[illegible]hlorophenol	ND	ND	0.06	ND	ND	1	<3	ND
2,4-Dichlorophenol	48	815	20	26	ND	38	26	7
P[illegible]chloro-m-Cresol	ND	ND	0.2	ND	ND	<0.5	<2	ND
P[illegible]ntachlorophenol	255	100000	507	8900	ND	761	510	1450
Ph[illegible]nol	ND	ND	0.8	ND	ND	1	3	ND
2,4,6-Trichlorophenol	674	33900	93	395	ND	275	6270	200

NOTES:

1. Drum No. 5 was empty. No sample was taken.

SOUTH LOT DRUM SITE - PRIORITY POLLUTANT ANALYSIS (PPM)

	Drum Number							
	17	18	19	20	21	22	23	24
Volatile Compounds								
Benzene	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	0.8	ND	ND	0.03	<0.03	ND	<0.03
Chloroform	0.1	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	<0.04	ND	ND	ND	<0.04
Methylene Chloride	0.06	0.2	ND	0.07	0.1	0.06	0.1	1
Tetrachloroethylene	ND	ND	ND	ND	0.02	<0.02	ND	ND
Toluene	0.1	2	80	0.04	<0.03	<0.03	0.02	1
Acid Compounds								
2-Chlorophenol	ND	ND	ND	ND	ND	0.2	ND	42
2,4-Dichlorophenol	324	288	7	3	0.9	1	ND	23
P-Chloro-m-Cresol	ND	ND	ND	ND	ND	ND	ND	0.7
Pentachlorophenol	46400	3050	11700	2500	36	307	ND	621
Phenol	ND	ND	2	ND	0.6	ND	ND	8
2,4,6-Trichlorophenol	42300	62100	285	109	36	64	33	22

NOTES:

1) Drum No. 5 was empty. No sample was taken.
2) ND = Not Detected.
   X = Present at less than minimum detection limit of X ppm.

SOUTH LOT DRUM SITE - PRIORITY POLLUTANT ANALYSIS (PPM)

	Drum Number							
	25	26	27	28	29	30	31	32
Volatile Compounds								
Benzene	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	<7	<0.03	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	<3	ND	ND	ND	<4	ND	ND	ND
Ethylbenzene	<9	ND	ND	0.2	15	<0.03	15	0.1
Methylene Chloride	42	0.1	ND	<0.02	ND	ND	ND	0.03
Tetrachloroethylene	<5	ND	ND	0.4	253	15	28	ND
Toluene	9	0.07	41					
Acid Compounds								
2-Chlorophenol	2	0.3	ND	0.8	ND	ND	<0.8	ND
2,4-Dichlorophenol	6	4	ND	2	8	ND	6	ND
P-Chloro-m-Cresol	ND	ND	ND	ND	ND	ND	3	ND
Pentachlorophenol	3200	1350	779	460	12200	ND	264	251
Phenol	3	ND	ND	0.5	<2	ND	ND	ND
2,4,6-Trichlorophenol	271	76	185	129	47	ND	430	2

NOTES:

1) Drum No. 5 was empty. No sample was taken.
2) ND = Not Detected.
3) <X = Present at less than minimum detection limit of X ppm.
4) Priority pollutant compounds not listed were not detected.

SOUTH 1ST DRUM SITE - PRIORITY POLLUTANT ORGANICS AREA

	Drum Number							
	1	2	3	4	5	6	7	8
Base/Neutral Compounds								
Acenaphthene	ND	ND	ND	ND	-	ND	ND	ND
Anthracene	ND	ND	997	929	-	4	ND	ND
Benzidine	3940	1390	ND	ND	-	ND	ND	ND
Benzo(a)Anthracene	ND	ND	ND	ND	-	<15	ND	ND
Benzo(a)Pyrene	ND	ND	ND	8	-	8	ND	ND
Benzo(b)Fluoranthene	ND	ND	ND	<5	-	<19	ND	ND
Benzo(ghi)Perylene	ND	ND	ND	4	-	<8	ND	ND
Benzo(k)Fluoranthene	ND	ND	ND	4	-	ND	ND	ND
Bis(2-Ethylhexyl)Phthalate	ND	ND	ND	ND	-	ND	ND	ND
Butyl Benzyl Phthalate	ND	ND	ND	ND	-	ND	<40	ND
4-Chlorophenyl Phenyl Ether	<41	ND	ND	ND	-	18	ND	ND
Chrysene	ND	ND	ND	ND	-	ND	ND	ND
DiBenzo(a,h)Anthracene	ND	ND	ND	ND	-	ND	ND	2
1,2-Dichlorobenzene	ND	ND	ND	12	-	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND	-	ND	ND	7
1,4-Dichlorobenzene	ND	ND	ND	ND	-	ND	ND	ND
Di-N-Octyl Phthalate	ND	ND	ND	ND	-	ND	ND	ND
1,2-Diphenylhydrazine	ND	ND	ND	ND	-	7	ND	ND
Fluoranthene	ND	ND	ND	ND	-	ND	ND	ND
Fluorene	28	69	950	196	-	ND	ND	850
Hexachlorobenzene	ND	ND	ND	ND	-	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND	-	3	ND	ND
Hexachloroethane	ND	ND	ND	ND	-	<9	ND	ND
Indeno(1,2,3-c,d)Pyrene	ND	102	176	ND	-	ND	ND	<0.6
Naphthalene	ND	ND	ND	ND	-	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND	-	ND	ND	ND
N-Nitrosodiphenylamine	ND	<50	2500	1100	-	23	ND	ND
Phenanthrene	ND	ND	ND	ND	-	76	ND	ND
Pyrene	ND	<17	22	31	-	ND	ND	2
1,2,4-Trichlorobenzene	ND	ND	ND	ND	-	ND	ND	<4
Di-N-Butyl Phthalate								
Pesticide/PCB Compounds								
			ND	108	-	ND	ND	ND
							ND	ND

SOUTH LOT DRUM SITE - PRIORITY POLLUTANT ANALYSIS (PPM)

Base/Neutral Compounds	Drum Number 9	10	11	12	13	14	15	16
Acenaphthene	ND	ND	ND	ND	ND	<3	ND	ND
Anthracene	ND	ND	ND	82	ND	<6	<3	<3
Benzidine	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)Anthracene	ND	ND	<13	<13	ND	<13	13	<13
Benzo(a)Pyrene	ND	ND	ND	ND	ND	ND	8	ND
Benzo(b)Fluoranthene	ND	ND	<17	ND	ND	<17	<17	<16
Benzo(ghi)Perylene	ND	ND	ND	ND	ND	ND	<7	<7
Benzo(k)Fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND
Bis(2-Ethylhexyl)Phthalate	ND	ND	ND	ND	ND	ND	ND	ND
Butyl Benzyl Phthalate	ND	ND	ND	ND	ND	ND	ND	ND
4-Chlorophenyl Phenyl Ether	ND	<210	ND	ND	ND	ND	<7	ND
Chrysene	ND	ND	<4	ND	ND	5	13	7
DiBenzo(a,h)Anthracene	ND	ND	ND	ND	ND	ND	<17	ND
1,2-Dichlorobenzene	<17	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND
Di-N-Octyl Phthalate	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Diphenylhydrazine	ND	ND	<17	ND	ND	ND	ND	<16
Fluoranthene	ND	ND	6	13	ND	4	32	5
Fluorene	ND	ND	ND	ND	ND	<3	ND	ND
Hexachlorobenzene	694	ND	8	300	51	13	4	27
Hexachlorobutadiene	ND	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-c,d)Pyrene	ND	ND	ND	ND	ND	ND	<8	ND
Naphthalene	ND	ND	ND	ND	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	ND	4	ND	ND	ND	ND	ND
Phenanthrene	ND	ND	<9	148	<49	16	13	12
Pyrene	ND	ND	6	ND	ND	12	28	27
1,2,4-Trichlorobenzene	<17	ND	ND	8	ND	ND	ND	14
Di-N-Butyl Phthalate	ND	ND	ND	ND	ND	ND	ND	ND
Pesticide/PCB Compounds								
4,4'-DDE	ND	ND	ND	ND	ND	ND	ND	ND
PCB-1254	ND	ND	<60	ND	ND	<60	ND	111
PCB-1248	ND	ND	ND	ND	ND	ND	ND	183
PCB-1260	ND	ND	ND	ND	ND	114	ND	141

SOUTH LOT DRUM SITE - PRIORITY POLLUTANT ANALYSIS (ppm)

Base/Neutral Compounds	Drum Number 17	18	19	20	21	22	23	24
Acenaphthene	ND	ND	ND	31	ND	0.2	ND	19
Anthracene	ND	ND	157	55	ND	0.4	ND	42
Benzidine	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)Anthracene	ND	ND	ND	48	0.6	1	ND	27
Benzo(a)Pyrene	ND	ND	ND	13	0.7	1	ND	24
Benzo(b)Fluoranthene	ND	ND	ND	11	ND	ND	ND	8
Benzo(ghi)Perylene	ND	ND	ND	9	ND	1	ND	9
Benzo(k)Fluoranthene	ND	ND	ND	ND	2	0.9	ND	ND
Bis(2-Ethylhexyl)Phthalate	ND	ND	ND	ND	ND	<0.3	<0.4	ND
Butyl Benzyl Phthalate	ND	ND	ND	ND	ND	ND	2	ND
4-Chlorophenyl Phenyl Ether	<41	<42	ND	ND	ND	ND	ND	ND
Chrysene	ND	ND	ND	75	0.8	2	ND	53
DiBenzo(a,h)Anthracene	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	29	<19	ND	1	0.1	<0.06	0.5	ND
1,3-Dichlorobenzene	ND	ND	ND	ND	<0.07	ND	ND	ND
1,4-Dichlorobenzene	58	<44	ND	<2	0.2	0.2	0.9	ND
Di-N-Octyl Phthalate	ND	ND	ND	ND	ND	ND	1	ND
1,2-Diphenylhydrazine	<98	ND	53	ND	ND	ND	ND	ND
Fluoranthene	ND	ND	10	43	4	2	0.6	42
Fluorene	ND	ND	ND	20	ND	0.2	ND	12
Hexachlorobenzene	251	ND	1050	23	2	4	97	ND
Hexachlorobutadiene	ND	ND	ND	ND	0.2	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND	1	ND	ND	ND
Indeno(1,2,3-c,d)Pyrene	ND	ND	ND	7	0.7	0.3	ND	ND
Naphthalene	ND	ND	ND	6	0.1	0.1	0.08	3
Nitrobenzene	ND	ND	ND	ND	ND	<0.06	ND	ND
N-Nitrosodiphenylamine	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	ND	ND	271	294	1	2	0.3	219
Pyrene	ND	ND	ND	539	4	11	0.7	453
1,2,4-Trichlorobenzene	ND	ND	17	17	0.5	2	0.4	0.9
Di-N-Butyl Phthalate	ND	ND	ND	ND	ND	ND	ND	ND
Pesticide/PCB Compounds								
4,4'-DDE	ND	ND	ND	ND	ND	ND	ND	ND
	ND	ND	ND	ND	ND	ND	ND	ND
					69	119	9	110

SOUTH LOT DRUM SITE - PRIORITY POLLUTANT ANALYSIS (PPM)

Base/Neutral Compounds	Drum Number 25	26	27	28	29	30	31	32
Acenaphthene	<0.8	ND	104	0.1	19	86	1	ND
Anthracene	ND	6	205	4	79	168	7	ND
Benzidine	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)Anthracene	ND	ND	141	4	<32	105	3	<1
Benzo(a)Pyrene	ND	ND	46	ND	ND	35	0.9	ND
Benzo(b)Fluoranthene	ND	ND	ND	ND	<41	ND	<2	<2
Benzo(ghi)Perylene	ND	ND	<39	ND	<17	<41	0.8	ND
Benzo(k)Fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND
Bis(2-Ethylhexyl)Phthalate	ND	ND	ND	ND	ND	ND	ND	ND
Butyl Benzyl Phthalate	ND	ND	ND	ND	ND	ND	ND	ND
4-Chlorophenyl Phenyl Ether	<2	ND	ND	ND	ND	ND	ND	ND
Chrysene	ND	0.4	205	9	51	161	5	0.6
DiBenzo(a,h)Anthracene	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	<0.8	0.2	ND	0.8	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	0.08	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	<2	0.3	<42	2	ND	ND	<0.7	ND
Di-N-Octyl Phthalate	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Diphenylhydrazine	<4	0.8	ND	ND	ND	ND	7	ND
Fluoranthene	ND	0.8	ND	4	30	54	3	2
Fluorene	ND	0.07	163	2	37	143	ND	ND
Hexachlorobenzene	379	17	ND	949	967	ND	18	ND
Hexachlorobutadiene	ND	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	<0.7	ND	ND	ND	ND
Indeno(1,2,3-c,d)Pyrene	ND	ND	ND	ND	ND	ND	<0.8	ND
Naphthalene	ND	ND	<15	<0.7	ND	19	ND	3
Nitrobenzene	ND	0.1	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	22	0.3	ND	ND	ND	ND	ND	ND
Phenanthrene	5	0.6	1110	19	197	846	22	3
Pyrene	10	1	526	40	184	427	17	2
1,2,4-Trichlorobenzene	1	2	20	3	<8	ND	8	ND
Di-N-Butyl Phthalate	ND	ND	ND	ND	ND	ND	ND	ND
Acid/PCB Compounds				ND	ND	ND	ND	ND
							49	6

SOUTH LOT DRUM SITE - PRIORITY POLLUTANT ANALYSIS (PPM)

Priority Pollutant Metals	Drum Number								
	6	7	8	9	10	11	12	13	14
Antimony	<14	25	ND	ND	ND	ND	ND	ND	<14
Arsenic	5	81	ND	3	12	13	9	1	29
Beryllium	0.1	0.1	ND	<0.05	<0.05	0.6	0.3	0.08	0.6
Cadmium	62	4	ND	<0.8	2	2	2	4	34
Chromium	20	12	<4	<4	51	20	14	5	28
Copper	63	1180	3	60	1780	755	160	57	2550
Lead	94	990	33	1470	520	940	210	460	240
Mercury	0.8	3	0.4	1	3	9	2	1	7
Nickel	925	120	3	352	240	1280	170	1740	1940
Selenium	<0.5	ND	ND	1	<1	2	2	<0.5	4
Silver	<2	2	ND	<2	<2	4	<2	ND	11
Thallium	<0.5	<0.5	ND	ND	ND	0.5	ND	ND	ND
Zinc	990	675	29	100	553	1940	178	426	13500

SOUTH LOT DRUM SITE - PRIORITY POLLUTANT ANALYSIS (PPM)

Priority Pollutant Metals	Drum Number								
	15	16	17	18	19	20	21	22	23
Antimony	ND	81	ND	ND	ND	<14	<14	37	ND
Arsenic	8	19	7	7	8	5	14	10	9
Beryllium	0.3	0.5	0.3	0.1	0.1	0.2	0.4	0.3	0.3
Cadmium	2	5	<0.8	1	1	2	4	4	2
Chromium	30	18	12	12	10	11	23	19	10
Copper	252	568	208	174	140	88	210	3550	170
Lead	650	4460	290	530	640	280	2360	1400	780
Mercury	0.9	22	6	0.6	4	4	2	7	0.1
Nickel	83	723	2990	436	680	170	74	809	110
Selenium	0.9	16	1	0.6	2	2	<0.5	2	ND
Silver	2	2	2	<2	<2	<2	<2	3	<2
Thallium	ND	<1	ND	<0.5	<0.5	ND	ND	<1	<0.5
Zinc	549	750	257	431	292	110	1	1060	358

SOUTH LOT DRUM SITE - PRIORITY POLLUTANT ANALYSIS (PPM)

Priority Pollutant Metals	Drum Number								
	24	25	26	27	28	29	30	31	32
Antimony	ND	ND	ND	<14	ND	58	ND	<14	95
Arsenic	8	3	23	2	7	3	4	18	70
Beryllium	0.3	0.2	0.3	<0.05	0.2	0.1	<0.1	0.3	<0.05
Cadmium	3	3	2	<0.8	2	<0.8	1	3	<0.8
Chromium	11	9	16	<4	16	14	12	14	11
Copper	192	130	189	6	180	120	140	258	84
Lead	1100	600	610	930	510	860	1560	1910	2310
Mercury	2	0.8	21	0.1	2	5	2	8	2
Nickel	307	539	280	52	358	410	476	2150	12
Selenium	<0.5	0.7	4	ND	3	2	0.9	3	<3
Silver	<2	<2	2	<2	<2	<2	<2	2	<2
Thallium	ND	ND	<0.5	ND	ND	ND	ND	<0.5	11
Zinc	469	606	256	8	308	281	280	1710	203

SWMU #22

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

Facility: Monsanto-Krummrich **Date:** 9/14/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Facility Landfill - Central Area (suspected)

LDF Unit: Y or N **Type of Unit:** Landfill

Location (identify deparmtent and orientation of unit): This suspected landfill is alleged to be in the area of the Chlorobenzene department.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): This suspected landfill was reported in earlier Part a filings based on heresay evidence. No records could be found in WGK's files that showed a landfill in this area. Because no documentation or evidence could be found substantiating this landfill, it was removed from Krummrich 12/8/86 Part A submittal.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): _____

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET SWMU #21

Facility: Monsanto-Krummrich **Date:** 9/10/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Facility Landfill Northwest Area

LDF Unit: Y or N **Type of Unit:** Suspected Landfill

Location (identify deparmtent and orientation of unit): This landfill has been reported to be in the northwest corner of the facility.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): In the initial filings for the Part A and Eckhardt study, WGK reported that there was a 705' x 300' foot landfill in the northwest corner of the facility. Apparently these findings were based on non-conclusive evidence. Attached is a letter found in our files that discounts the presence of this particular fill. Like the agency, we have many documents (Part A filings and the Eckhardt study) that suggest the presence of the fill. However, the groundwater and soil boring study shows no evidence of a fill.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): _____

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

SWMU #52

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

Facility: Monsanto-Krummrich **Date:** 9/11/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Facility landfill; Route 3 and Monsanto Avenue (southwest corner)

LDF Unit: Y or N **Type of Unit:** Landfill (suspected)

Location (identify deparmtent and orientation of unit): The agency reports this landfill is located on the southwest corner of Route 3 and Monsanto Avenue.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): There is no landfill located at this site. It was listed due to a poor drawing (map) that was on an earlier filing. From the map that was submitted, it appears that there is a fill in the northeast corner of Lot F. No records were discovered to indicate that there was a fill in this area. On the original filing, WGK reports that this fill was operated from 1957-1978 and covers 36 acres. This description is for the Lot H landfill.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): _____

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

^C

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET SWMU #53

Facility: Monsanto-Krummrich **Date:** 9/16/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Department 255 Waste Water Pretreatment

LDF Unit: Y or N **Type of Unit:** Waste Water Pretreatment

Location (identify deparmtent and orientation of unit): Department 255 Waste Water Pretreatment unit is located at the corner of Falling Springs and 4th Street

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): Various process vessels/equipment which recover and recycle organics generated from manufacturing operations. In operation since November 1990. See Water Pollution Control Permit No. 0927.90 for further details.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): Waste Water generated during product and raw material solvent extraction and recovery process. See Water Pollution Control Permit No. 0927.90 for further details.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

The pretreatment facility is located on concrete and asphalt paved surfaces.

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

SWMU #54

Facility: Monsanto-Krummrich **Date:** 9/16/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Department 233 Waste Water Pretreatment Unit

LDF Unit: Y or N **Type of Unit:** Waste Water Pretreatment

Location (identify deparmtent and orientation of unit): Department 233 waste water pretreatment unit is located at 4th and D Streets with the storage tanks locaTed at 4th and E Streets.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): Various process vessels/equipment which recover and recycle organics generated from manufacturing operations. In operation since November 1990. See Water Pollution Control Permit No. 0928-90 for further details.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): Waste water generated from manufacturing operations. See Water Pollution Control Permit No. 0928.90 for further details.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

Pretreatment facility is located on concrete and asphalt paved surfaces.

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET SWMU #54A

Facility: Monsanto-Krummrich **Date:** 9/16/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Department 221 Waste Water Pretreatment Unit

LDF Unit: Y or N **Type of Unit:** Waste Water Pretreatment

Location (identify deparmtent and orientation of unit): Department 221's waste water pretreatment unit is located at Falling Springs and 2nd Streets west of the storage tank farm.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): Various process vessels/equipment which recover and recycle organics generated from manufacturing operations. In operation since November 1990. See Water Pollution Control Permit No. 0928.90 for further details.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): Waste water generated from manufacturing operations. See Water Pollution Control Permit No. 0928.90 for further details.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

Pretreatment facility is located on concrete and asphalt paved surfaces.

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

SWMU #55

Facility: Monsanto-Krummrich **Date:** 9/16/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Department 219/222 Waste Water Pretreatment

LDF Unit: Y or N **Type of Unit:** Waste Water Pretreatment Unit

Location (identify deparmtent and orientation of unit): Department 219/222's Waste Water Pretreatment Unit is located west of B and 3rd Streets

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): Carbon Adsorption Facility which recovers organics from manufacturing operations. See Water Pollution Control Permit No. 0927.90 for further details.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): Waste water generated from manufacturing operations. See Water Pollution Control Permit No. 0927.90 for further details.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

Pretreatment facility is located on concrete and asphalt paved surfaces.

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

SWMU #27

Facility: Monsanto-Krummrich **Date:** 9/11/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Facility Landfill-Building BBK ("New Dump")

LDF Unit: Y or N **Type of Unit:** Landfill

Location (identify deparmtent and orientation of unit): This landfill is located at the southwest corner of Building BBK (ACL Department).

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): This landfill is 75' x 100' and was in operation between the years of 1942 and 1951.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): We have no records indicating what waste was placed in this fill.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

SWMU #26

Facility: Monsanto-Krummrich **Date:** 9/11/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: "Old Dump" (or Site #1)

LDF Unit: Y or N **Type of Unit:** Facility landfill

Location (identify deparmtent and orientation of unit): This area is located on the southeast corner of BBW and extends across 5th Street in the southwest area of the plant.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): The landfill is approximately 150' x 175'. A 1942 plant map indicates that this fill was closed and filled in by that year. The "old dump" was primarily used for the disposal of Nitrochlorobenzene waste. A storeroom and part of the ACL unit were built on top of the fill.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): Nitrochlorobenzene waste, such as 2-Nitrobiphenyl and 4-Nitrobiphenyl were found during construction in that area.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET SWMU #33

Facility: Monsanto-Krummrich **Date:** 9/14/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: "Old Pond"

LDF Unit: Y or N **Type of Unit:** Surface Impoundment

Location (identify deparmtent and orientation of unit): This site is located in the southwest central area of the plant directly under Building BBZ (Storeroom).

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): The unit is approximately 375' x 75'. The only records found indicate that this fill was closed and filled by 1942.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): No records were found taht identified the material in the pond.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET SWMU #33

Facility: Monsanto-Krummrich **Date:** 9/14/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: "Old Pond"

LDF Unit: Y or N **Type of Unit:** Surface Impoundment

Location (identify deparmtent and orientation of unit): This site is located in the southwest central area of the plant directly under Building BBZ (Storeroom).

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): The unit is approximately 375' x 75'. The only records found indicate that this fill was closed and filled by 1942.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): No records were found taht identified the material in the pond.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

SWMU #28

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

Facility: Monsanto-Krummrich **Date:** 9/14/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Phenol Residue Site

LDF Unit: Y or N **Type of Unit:** Landfill

Location (identify deparmtent and orientation of unit): The phenol residue site is located in the west central area of the plant, near 3rd and H Streets.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): The phenol residue site measures 75' x 100' and was closed before 1951. This site holds wastes associated with the produciton of phenol. Manufacturing units and roads are constructed on top of this site.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): The wastes in this site was associated with the production of phenol.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET SWMU #31

Facility: Monsanto-Krummrich **Date:** 9/11/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Old Discharge Pond

LDF Unit: Y or N **Type of Unit:** Surface Impoundment

Location (identify deparmtent and orientation of unit): This site is located east and north of Department 277

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): The "old discharge pond" measures 125' x 125' and was used by the Sulfuric Acid Department from 1942 until 1951

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): No information exists on the material discharged into that area.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

SWMU #62

Facility: Monsanto-Krummrich **Date:** 9/14/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Sulfate Pile

LDF Unit: Y or N **Type of Unit:** Waste Pile

Location (identify deparmtent and orientation of unit): The sulfate pile was part of the Phenol Department. Thisa rea currently is part of Department 277.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): This site shows up on a 1938 plant drawing. From the drawing, it seems that the sulfate pile was part of the older Phenol Department.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]: According to the 1938 drawing, sodium sulfite was stored there. A that time, sodium sulfite was a byproduct from the production of Phenol

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

SWMU #63

Facility: Monsanto-Krummrich **Date:** 9/15/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Borrow Pit

LDF Unit: Y or N **Type of Unit:** Facility Landfill

Location (identify deparmtent and orientation of unit): This site is located south of the ACL cooling towers in the southwestern section of the plant.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): The only information about the borrow pit is on a 1942 facility map. The borrow pit was an area where soil was taken from to build up other low spots in the plant.. There is some speculation that the borrow pit was filled in with cinders from the powerhouse.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]):

No available

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

SWMU #64

Facility: Monsanto-Krummrich **Date:** 9/12/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Spray Pond

LDF Unit: Y or N **Type of Unit:** Surface Impoundment

Location (identify deparmtent and orientation of unit): The spray pond was located in the southeastern corner of the facility.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): The spray pond was used to store and cool non-contact cooling water that was circulated through cooling towers.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): _____

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

32

SWMU #32

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

Facility: Monsanto-Krummrich **Date:** 9/11/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Sulfate Pond

LDF Unit: Y or N **Type of Unit:** Surface Impoundment

Location (identify deparmtent and orientation of unit): This site is located directly east of Department 277.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): The sulfate pond was part of the unit that manufactured phenol. The approximately size of the pond was 300' x 75'. The pond was operational from 1942 to 1952.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): This pond contained sodium sulfate.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

SWMU #6

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

Facility: Monsanto-Krummrich **Date:** 9/10/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Steamer Overhead Tank - Item 407

LDF Unit: Y or N **Type of Unit:** Storage Tank

Location (identify deparmtent and orientation of unit): The steamer overhead tank was located in Department 238.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): The steamer overhead tank, Item 407, was a 15,000 gallon RFP (Fiberglass Reinforced Plastic) tank. The tank was entirely above ground and diked. The waste stored in the tank was an ignitable waste (D001) and was generated from the distillation of butyl benzyl phthalate. The composition of the waste was: Butanol, Benzyl Chloride, and Triethylamine. The tank was decommissioned and removed from service in 1982.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): The waste was an ignitable liquid (D001).

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography): The tank sat behind a concrete and rebar dike.

SWMU #49

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

Facility: Monsanto-Krummrich **Date:** 9/15/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: South Lot Drum Site

LDF Unit: Y or N **Type of Unit:** Facility Landfill

Location (identify deparmtent and orientation of unit): This site is located in the southwestern area of the plant, south of 5th Street near the 5th and H Street intersection.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): The south lot drum site was found in mid-1986 during construction of an addition to the ACL cooling tower. 30 drums of waste material were recovered from this area. There is a no information available concerning the area measurement. However, during the drum recovery excavation, a depth of 40' was reached. A cooling tower and associated buildings are now that area.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): See attached.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

SWMU #68

Facility: Monsanto-Krummrich **Date:** 8/6/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: ACL Wastewater Treatment

LDF Unit: Y or N **Type of Unit:** Wastewater Treatment

Location (identify deparmtent and orientation of unit): ACL (Activated Chlorine) product department

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): Two (2) 7,000 gallon, titanium construction reactor vessels. Construction and operation began in 1983. Continuous operation, based on ACL production rate. Chlorine-containing wastewaters gravity-flow through department sewers to the reactors, which are contained in a sealed concrete pit. Reactions via sodium thiosulfate chemistry yield salts and acids to the plant sewer system, and ultimate to the POTW.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): Chlorine-containing wastewaters from ACL (routine) and chlorine-handling operations (sodium hypochlorite solution; RCRA Code D002; intermittent).

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

Concrete paved; reactors contained within a sealed concrete pit.

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET SWMU #69

Facility: Monsanto-Krummrich **Date:** 9/16/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Santoflex Separator Sump

LDF Unit: Y or N **Type of Unit:** Wastewater Pretreatment

Location (identify deparmtent and orientation of unit): Department 277's Santoflex sump is located on the northeast corner of 3rd and H Streets.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): The sump was built in 1986 and began opeation in 12/86-1/87. Wastewater from the unit collects at the sump. Undissolved organics are separated in the first section of the pit. The wastewater then underflows to the other section of the sump and eventually to the sewer. The organics that are separated flow to the Ketone Residue Tank (#595). The sump measures approximately 12' x 10' x 10' and is constructed of 1' thick concrete.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): Various ketones (MEK, MIBK, MIAK) and wastewater.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

The area that surrounds the sump is concrete and asphalt.

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET NEW SWMU #1

Facility: Monsanto-Krummrich **Date:** 9/16/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Phosphorus Trichloride Manufacturing Unit (Dept. 243)

LDF Unit: Y or N **Type of Unit:** _____

Location (identify deparmtent and orientation of unit): The PCl_3 Department was located in the eastern section of the plant at B and 2nd Streets.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): Department 243 was a manufacturing unit that produced Phosphorus Trichloride or PCl_3. PCl_3 was made by reacting phosphorus with chlorine in the presence of PCl_3. The department was in operation from the early to mid 1930-s until late 1991 when the unit was shutdown. Department 243 was dismantled in 1992.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): Phosphorus, chlorine, waste PCl_3, waste Phosphorus, waste oil, waste Therminol. In the 1930's - 1960's Arochlors were used.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

The surface of the department was concrete and asphalt.

1531

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET NEW SWMU #2

Facility: Monsanto-Krummrich **Date:** 9/16/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Rail Tank Car Repair Track (or Rip Track)

LDF Unit: Y or N **Type of Unit:** Wastewater Collection Unit

Location (identify deparmtent and orientation of unit): The repair track in located in the south central section of the manufacturing area.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): The repair track serves as a rail tank car inspection, cleaning and repair station. After each use, the rail cars are returned to Krummrich. These tank cars are taken to the Rip Track and washed internally using a specialized hydroblast unit. After the tank car is thoroughly cleaned, the water and contaminates are flsuhed to the sewer. The sewer box is constructed of brick and concrete.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): The returned rail cars contain a residual amount of product chemicals that are manufactured at Krummrich.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography): The sewer box is constructed of brick, morter and concrete. The sewer is concrete. The area around the sewer box is chat (crushed limestone rock).

NEW SWMU #3

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

Facility: Monsanto-Krummrich **Date:** 9/9/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: BI Lot (Bone Yard)

LDF Unit: Y or N **Type of Unit:** Surplus Equipment Storage

Location (identify deparmtent and orientation of unit): The BI lot is locate din the south central area of the plant.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): The BI lot covers approximately 1-2 acres. Some areas are covered with concrete, other areas have a chat surface.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): No wastes are managed at this site. Only clean surplus equipment is stored here (tanks, steam lines, etc.). Some 55 gallon drums of oil and Therminol are stored here on racks above a concrete pad. The oil and Therminol is not waste.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

Concrete/chat

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET NEW SWMU #4

Facility: Monsanto-Krummrich **Date:** 9/16/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Department 245 Tote Bin Wash Rack

LDF Unit: Y or N **Type of Unit:** _____

Location (identify deparmtent and orientation of unit): Department 245 is located in the south central section of the plant at D and 5th Streets. The wash rack is in the southwest section of the unit.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): The wash rack that is currently in use was constructed of metal and concrete. Its function is to wash tote bins that have been returned from customers with residual P_2S_5 in them. The tote bins are placed on the rack and are washed internally with water. The water collects at the bottom of the tote bin. Water flows from the tote bins to the sewer through an unloading door located at the bottom of the bin.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]: P_2S_5 and wash water. (H_2S gas is generated when P_2S_5 is mixed with water).

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

Asphalt and concrete. There is a 6" burm around the sewer opening.

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET NEW SWMU #5

Facility: Monsanto-Krummrich **Date:** 9/17/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Department 240 Loading Dock

LDF Unit: Y or N **Type of Unit:** _____

Location (identify deparmtent and orientation of unit): This site is located on D Street on the east side of the tanks.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): The agency commented on 2 items in this area: one concern was over two drums located in the area and a 5 gallon bucket hanging on a pump that appeared to be catching a leak. The two drums that were seen are product drums. They contained DDA (Didecyl Aniline), a product that is no longer produced. These drums were being sampled. The bucket hanging of the pump is used when a sample is being collected from that site. Where there is no concern over the use of the bucket, the pump has leaked into the burmed area. The material that leaked from the pump was a product, Santoflex 134.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc]): The material is the burmed area is Santoflex 134A, a product manufactured at this site.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

The area is asphalt and concrete. There is a burm around the pump unit.

NEW SWMU #6

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

Facility: Monsanto-Krummrich **Date:** 9/17/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: PCB Substation

LDF Unit: Y or N **Type of Unit:** _____

Location (identify deparmtent and orientation of unit): The substation (transformer) is located on the northeast corner of 3rd and Falling Springs Road.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): This unit is approximately 30 years old and has been out of service for 4 years. For 8 years prior from the date it was removed from service, this unit was used in service to the powerhouse at this site. Dielectric fluid containing PCB's were drained in the mid to late 1970's.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): No wastes are associated with this site. Dielectric fluid containing PCB's were drained in the mid to late 1970's. The transformer does cntain dielectric fluid.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

The area surrounding this site is constructed of asphalt/concrete.

NEW SWMU #7

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

Facility: Monsanto-Krummrich **Date:** 9/8/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: "Big Mo" Benzene Tank

LDF Unit: Y or N **Type of Unit:** 2.3 Million Gallon Benzene Tank

Location (identify deparmtent and orientation of unit): Southeast corner of the plant.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): Big Mo tank is a 38 year old carbon steel tank holds 2.3 million gallons of benzene. The benzene is a raw material feedstock for teh Chlorobenzenes unit. The tank is still in benzene service.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): _____

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

The tank sits behind a 4 1/2" dike wall made of concrete that is reinforced with rebar. The floor of the dike is earthern, composed of sand and clay.

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET NEW SWMU #8

Facility: Monsanto-Krummrich **Date:** 9/17/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Department 240 Surface Discharge Area

LDF Unit: Y or N **Type of Unit:** _____

Location (identify deparmtent and orientation of unit): This site is located on the west side of Department 240 on H Street.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): During the RFA visit, the agency noted material on the side of Department 240 and on the asphalt and gravel area next to the building. The material is Santoflex Pastilles, a produce made in this department. Santoflex Pastilles are solid pellets. These pellets are moved throughout the department on conveyors. At one point in the process, the pellets are in hoppers on the roof. At one time the hopper leaked and the pellets fell to the roof. The sun melted the pellets and the material ran down the side of the building. The hopper has been redesigned and reapired. (One photograph shows a rain water pipe with rust surrounding it.)

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): The material of concern is Santoflex Pastilles.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

Asphalt and gravel.

1538

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET SWMU #69

Facility: Monsanto-Krummrich **Date:** 9/16/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Santoflex Separator Sump

LDF Unit: Y or N **Type of Unit:** Wastewater Pretreatment

Location (identify deparmtent and orientation of unit): Department 277's Santoflex sump is located on the northeast corner of 3rd and H Streets.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): The sump was built in 1986 and began opeation in 12/86-1/87. Wastewater from the unit collects at the sump. Undissolved organics are separated in the first section of the pit. The wastewater then underflows to the other section of the sump and eventually to the sewer. The organics that are separated flow to the Ketone Residue Tank (#595). The sump measures approximately 12' x 10' x 10' and is constructed of 1' thick concrete.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): Various ketones (MEK, MIBK, MIAK) and wastewater.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

The area that surrounds the sump is concrete and asphalt.

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATIC
AND CHARACTERIZATION WORKSHEET

Facility: Monsanto-Krummrich **Date:** _____

Inspector: _____ **Photo Taken:** Y

Unit Name: Facility Landfill Northwest Area

LDF Unit: Y **or** N **Type of Unit:** Suspected Landfil

Location (identify deparmtent and orientation of unit):

has been reported to be in the northwest corner of the fa

Unit characteristics (construction, capacity, size, age, how waste is initiated into unit): In the initial filings

and Eckhardt study, WGK reported that there was a 705' x fill in the northwest corner of the facility. Apparently were based on non-conclusive evidence. Attached is a le files that discounts the presence of this particular fil agency, we have many documents (Part A filings and the F that suggest the presence of the fill. However, the gr boring study shows no evidence of a fill.

Wastes Managed (process description, commercial chemic Waste Code, physical state [solid, liquid, sludge, et

Surface description (concrete, asphalt, etc., age, secondary containment description, integrity, age, t

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

Facility: Monsanto-Krummrich **Date:** 9/17

Inspector: _____ **Photo Taken:** Y

Unit Name: Spent Carbon Tote Bin Storage Pad

LDF Unit: Y or N **Type of Unit:** Waste Accumulatio

Location (identify deparmtent and orientation of unit): T located on D Street between 3rd and 4th Streets.

Unit characteristics (construction, capacity, size, age, d how waste is initiated into unit): Tote bins containing s Department 233 are taken to this area and spotted. From t taken to BBU waste warehouse. The tote bins are moved fr within 3 days.

Wastes Managed (process description, commercial chemical Waste Code, physical state [solid, liquid, sludge, etc.] contaminated with benzene and HCl.

Surface description (concrete, asphalt, etc., age, s secondary containment description, integrity, age, topc This site is constructed of asphalt/concret.

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET NEW SWMU #12

Facility: Monsanto-Krummrich **Date:** 9/17/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Department 255 Waste Water Sump

LDF Unit: Y or N **Type of Unit:** Waste Water Collection Area

Location (identify deparmtent and orientation of unit): This site is located on the southeast corner of 5th and H Streets.

Unit characteristics (construction, capacity, size, age, dates of operatior how waste is initiated into unit): The sump was constructed in 1990 and bega opeaitons in late 1990, early 1991. Undissolved organices are separated i the pit and waste water underflows to the second section of the sump and eventually to the sewer. The organics that we separated are collected and incinerated. The sump measures 12' x 10' x 10' (approximately) and is constructed of 1' thick concrete.

Wastes Managed (process description, commercial chemical name, EPA Hazardc Waste Code, physical state [solid, liquid, sludge, etc.]): Waste water wi undissolved 4-NDPA (4-Nitrodiphenylanine) and xylene.

Surface description (concrete, asphalt, etc., age, structural integri secondary containment description, integrity, age, topography):

The surface surrounding the sump is asphalt and concrete.

Mitgation pathways (e.g., surface water bodies, conduits etc.): _____

_____

_____

_____

_____

Potential for Release (evidence of past, current release distressed vegetation; specify potentially impacted [e.g., soils surface water, etc.]): _____

_____

_____

_____

_____

_____

Release History (dates, compound, amount, impacted etc.): _____

No releases have occurred at this site.

_____

_____

Remediation conducted (dates, methods, procedures: __

_____

_____

_____

Groundwater monitoring present: Y N Number of

VSI Sampling conducted (location, environmental medi

_____

_____

_____

_____

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET NEW SI

Facility: Monsanto-Krummrich **Date:** 9/9/92

Inspector: _____ **Photo Taken:** Y N to N S

Unit Name: Department 222 Drum Accumulation Area

LDF Unit: Y or N **Type of Unit:** Drum Accumulation Area

Location (identify deparmtent and orientation of unit): Department located in the eastern section of the plant. The drum accumulation located on the south side of the department at B and Second Street.

Unit characteristics (construction, capacity, size, age, dates of op how waste is initiated into unit): The accumulation area is used as temporary holding area while transportion for the waste is being ar Waste drums that have been labelled and placed on pallets are brou the accumulation area. The waste can be held here for a maximum o The drums are then transported to waste warehouse. The size of the varies with the amount of waste that is packaged.

Wastes Managed (process description, commercial chemical name, EPA Waste Code, physical state [solid, liquid, sludge, etc.]): The wa accumulated in this area are associated with the production of ort para nitroaniline. Oil (D018, D035) Therminol (D008, D018), Para I Aniline (D077, and ONCB Rich ONA Residue (no codes).

Surface description (concrete, asphalt, etc., age, structural secondary containment description, integrity, age, topography): Concrete/asphalt, no burm or secondary containment.

SWMU #1

RCRA FACILITY ASSESSMENT SWMU IDENTIFICATION AND CHARACTERIZATION WORKSHEET

Facility: Monsanto-Krummrich **Date:** 9/16/92

Inspector: _____ **Photo Taken:** Y N to N S E W

Unit Name: Phenol Tank, Item #405

LDF Unit: Y or N **Type of Unit:** Wastewater Storage Tank

Location (identify deparmtent and orientation of unit): The tank sits 20 feet southwest of Building BR.

Unit characteristics (construction, capacity, size, age, dates of operation, how waste is initiated into unit): Tank #405 was a 20,000 gallon steel tank (above ground). Wastewater contaminated with phenol and other phenolic compounds were directed into the tank, where is was stored until being pumped into the treatment tanks (209 and 400). This tank was taken out of phenol service in 1981 and is currently in Chlorobenzene service.

Wastes Managed (process description, commercial chemical name, EPA Hazardous Waste Code, physical state [solid, liquid, sludge, etc.]): Wastewater contaminated with phenol and other phenolic compounds.

Surface description (concrete, asphalt, etc., age, structural integrity, secondary containment description, integrity, age, topography):

Tank 405 sat on a concrete pad with 6"-8" curb.